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CONTENTS

	Page		Page
The Treatment of Diabetic Acidosis and Coma. Leonard F. C. Wendt, M. D., and Don W. McLean, M. D.	145	EDITORIAL—	
The Medical Science Department of the Detroit Public Library. Andrew P. Biddle, M. D., F. A. C. P.	149	Seventeen Years of Service.....	172
The Human Constitution. George Draper, M. D.	151	Is This True, Now?.....	172
Tuberculosis—Progress made in Detroit, Counties and State of Michigan. D. S. Brachman, M. D., M. R. C. S., D. P. H.	156	Medical Post-Graduate Education.....	172
Ocular Equilibrium and Head Pain. C. W. Rutherford, M. D., F. A. C. S.	160	The Directorship of Graduate Medical Education	173
An Extreme Case of Osteomalacia—Case Report. Rita B. Tower, M. D.	164	Campaign of National Tuberculosis Association	173
The Early Diagnosis of Pulmonary Tuberculosis. Gerald B. Webb, M. D.	165	Common Colds	173
Case Report. E. B. Andersen, M. D.	167	Editorial Notes	174
Michigan's Department of Health. Guy L. Kiefer, M. D.	168	Dr. J. D. Bruce.....	174
		Our Contributors	174
		March Twenty-Five Years Ago.....	175
		Deaths—Dr. E. E. Neihardt.....	175
		Our Open Forum.....	176
		News and Announcements.....	177
		County Society Activity.....	178
		Book Reviews	184

THE TREATMENT OF DIABETIC ACIDOSIS AND COMA

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DETROIT, MICHIGAN

The most logical and effective treatment of diabetic acidosis and coma is its prevention by the administration of a properly balanced diet. It is the diabetic who is overfed that goes into acidosis and coma. The patient on insulin is always fed beyond his tolerance and any neglect in its administration is the same as overfeeding. Any condition causing increased metabolism is also equivalent to overfeeding.

The difference between diabetic acidosis and coma is one of degree only; in the first case we are treating acidosis in a conscious patient, and in the second in an unconscious patient. In no medical condition do we find our patients in greater danger. An ideal treatment would fall little short of constant personal supervision. Since this is seldom possible, we should at

least formulate some rational rules for treatment, incorporating to the best of our ability, a basis for sound judgment in the more common conditions that arise in diabetic acidosis. We must also give them sufficient specificity to avoid misinterpretation by one ordinarily qualified to administer such treatment.

CONSERVATION OF PATIENT'S ENERGY

Our first problem is the conservation of the patient's energy, which can be best accomplished by confining him strictly to bed. This will lower the metabolism and inhibit the formation of ketone bodies. It sometimes happens that the patient is restless or even mildly maniacal. Such patients are not easily handled, so it is imperative that our first order should state specifical-

ly, 1, *Confine strictly to bed.* Any form of mechanical restraint that might be employed for this purpose will serve only as an aggravation and a very unjust imposition on a sick patient. There can, of course, be no justification for the use of sedatives in such a condition. The problem of rest in these cases is primarily a problem of nursing.

AVOID OPIATES AND OTHER SEDATIVES

Another problem which we must consider early in our treatment is the presence of complicating diseases. The doctor is frequently called to treat a pleurisy, a gall stone colic, or a renal colic, in a patient who is also a severe diabetic. The patient does not complain of the diabetes, and frequently does not mention it, but will invariably demand relief from the pain. So it frequently happens that a diabetic deeply in acidosis will be given a $\frac{1}{4}$ or even a $\frac{1}{2}$ grain of morphin for pain, only to be thrown into profound coma. We must consider at this point that the diabetic in acidosis is subject to attacks of pain which may simulate almost any acute condition; but for which we can usually find no definite organic pathology. It is possible that these pains may be sensory reactions of degeneration, or reactions to an abnormal chemical stimulation of the nerve cells themselves. The blood count will usually give us but slight assistance, because there is such a blood concentration in acidosis that the white count may reach 20,000 or more in the absence of any demonstrable infection. I do not mean by this that there are not surgical indications in some of these cases. I cannot think of no special reason why a diabetic in acidosis might not also have an acute appendix, or a ruptured ulcer, and operation in such cases may offer the only hope of recovery. But these conditions are not common, while pain is a frequent complaint in diabetic acidosis; we should be very careful in our diagnosis. In my opinion morphin should seldom if ever be given, and most certainly never without the consultation and advice of a competent surgeon who has had special experience in such cases.

So it is well in handling these cases that our second order should read, 2. *Do not use mechanical restraint, sedatives or opiates.*

IMPORTANCE OF WARMTH AND OF FLUIDS

Our next problem is the preservation of body heat. This is best accomplished by covering the patient well with warm

blankets, and may be advantageously augmented by a liberal supply of warm water bottles placed outside the inner blanket. In acidosis the skin is abnormally sensitive to heat, so we must insist that the water bottles be only warm and not hot, and that they be placed outside the inner blanket. So our third order will read, 3. *Apply external heat with warm blankets and warm bags outside the inner blanket. Do not let bags come in contact with patient.* Such an order will usually obviate the necessity of treating burns, which in the diabetic, and particularly in the arteriosclerotic diabetic, frequently become gangrenous and heal very slowly.

Our patient in acidosis is always dehydrated, and the application of external heat will serve for the further dessication of his tissues. Obviously, our next duty is to supply fluids in a suitable form so that we may dilute his acids and facilitate their elimination. If the patient is conscious and can drink and retain 8 oz. of fluid every hour, the problem of administering the fluid is solved. The fluids should be hot, but the patient will not drink such a quantity of hot fluids. The patient prefers cold fluids, but the ingestion of such a quantity of cold fluid would not only be a needless sacrifice of body heat but would invariably lead to vomiting. Therefore, let us alternate hot drinks with cold. The fluids best suited to our use are tea and coffee for their heat and caffeine content; clear meat broth for its peculiar flavor and salt content; and orange juice and oatmeal water for their levulose content. The tea, coffee, and broth are given hot, the oatmeal water may be either hot or cold; while the orange juice and water are given cold. The kind and quantity of fluid to be given in each case will depend upon the age and weight of the patient, the severity of his acidosis, and the condition of his cardio-renal system. For the conscious patient who has not vomited and can tolerate fluids well by mouth we have no worry. So for our fourth order let us say, 4. *Give 8 oz. of tea, coffee, water or clear meat broth q.1.h. for 6 hours and then q.2.h., alternating hot drinks with cold until the patient is sugar free.* When he is sugar free we will substitute orange juice or oatmeal water for some of the above fluids.

But when our patient is comatose or semicomatose and has vomited, as is usually the case, we have quite another problem. The passing of a stomach tube may be a life saving measure. In Joslin's¹ clinic

lavage is a routine procedure in all cases with a plasma CO₂ of 20 vol. per cent or less. After lavage nothing should be given by mouth so long as the patient is nauseated or semicomatose.

Here we must depend upon hypodermoclysis and we can easily give 1,000 c.c. of normal saline with one per cent glucose every 4 to 6 hours. The lower bowel should be emptied with an enema and can later be used for the administration of glucose solution by retention enema or Murphy drip. Glucose by bowel is best given as a five per cent solution, which, under certain conditions of a complicating fixed acidosis, may be incorporated with a three per cent sodium bicarbonate solution. An investigation of the blood and urine chemistry should be started at the earliest possible moment.

BLOOD SUGAR READING AND INSULIN

The above orders may be satisfactorily carried out on urine examinations alone, but before we go much further we should know the level of the blood sugar, N.P.N., and CO₂ of the alveolar air and plasma. These findings will influence our subsequent course of treatment. The blood sugar reading will furnish a reliable guide for the administration of insulin. A high N.P.N. will warn us of a fixed acidosis and a possible impending uremia, and will influence to some extent our dosage of insulin. Other conditions being equal the diabetic with a high N.P.N. (say one of 60 mg. per 100 c.c. or higher) should receive smaller doses of insulin than the one whose kidney function is more nearly normal. Large doses of insulin apparently predispose to nitrogen retention even in the normal kidney. Many cases have recently been reported in the literature where N.P.N. has risen to from 100 to 200 mg. per 100 c.c. with large doses of insulin, and fallen to normal as the insulin was reduced. These experiences have been duplicated in our own clinic and subsequent kidney function tests have almost invariably given normal results. The CO₂ of the plasma and alveolar air furnish an accurate index of the efficacy of our treatment and the prognosis of the case. So for our fifth order we will write, 5. *Blood sugar, N.P.N. and CO₂ of the plasma and alveolar air.*

INSULIN IN DIABETIC COMA ONLY

Our first dose of insulin will probably be given before we have had the blood sugar determination, but it should never be given until we are reasonably sure of

the diagnosis. Patients with skull fracture may show a glycosuria; patients with renal glycosuria may also suffer from epilepsy; and, on the other hand, patients who suffer a stroke of apoplexy may be also true diabetics, while uremia may be associated with either a renal or a true diabetic glycosuria.

Diabetic patients are subject to many forms of coma, but insulin is indicated in the treatment of only one of them. Having decided that our case is one of true diabetic coma we will give insulin. The amount to be given at the first dose will depend upon the physical condition of the patient, and the amount of sugar in the urine. If the patient is in extremis a dose of 20 or even 30 units may be administered, a part of which may be given intravenously.

Foshay² has recently shown that in young diabetics, and in old diabetics with acute infections or severe acidosis, hyperglycemia produces a dehydration of the blood and of the fixed tissues, thus causing, in addition to the ketosis, a non-volatile acidosis with a consequent increase in erythrocyte volume by a process of water transference. When insulin is administered there is a reversal of this reaction. There is an increase in blood volume and a flooding of the fixed tissues. The water transfer between erythrocyte and plasma is apparently controlled by the acid-base balance of the blood. This contention has been corroborated by Andrews³ in his work on water metabolism. As we raise the alkali reserve there is a dilution of the blood, decreased corpuscular volume, generalized edema of the fixed tissues, and finally symptoms of alkalosis. That such a condition may be produced by the injudicious use of alkalis is obvious. That an identical state may be produced by large doses of insulin has been notably demonstrated by Joslin¹ who has recently reported a case of diabetic coma that died in alkalosis on the fifth day without having received any alkali. It is possible that some of our insulin reactions in the presence of normal blood sugars may be due to an unrecognized alkalosis. The more recent observers now contend that it is not especially the deficiency in the amount of the blood sugar that gives the reaction known as hypoglycemia, but that this reaction depends more upon the rate at which the sugar is reduced. This may be only another way of saying that it depends upon an insulin alkalimia. This is a very fruitful field for investigation. In the meantime it would be well for us to

remember that the alkali reserve of the blood should be adjusted cautiously, that it is not necessary to administer alkalies to produce alkalosis, and that insulin is much safer when given in small, frequently repeated doses.

INSULIN IN SMALL DOSAGE

It is very difficult to determine just what effect we are going to obtain from a given dose of insulin. According to Macleod the glucose equivalent per unit of insulin will depend chiefly upon two things⁴. 1. The height of the blood sugar. 2. The size of the dose of insulin. The higher the blood sugar, or the greater the amount of carbohydrate in the diet the greater will be the effect of each unit of insulin. It is thought that the glucose synthesized from protein is not so readily reduced through the insulin action as the glucose that is taken in the form of carbohydrate. If this is true we would expect less response from the insulin when there is a high protein intake, or when the patient is forming sugar from his own tissues. Ordinarily the smaller the dose of insulin the greater the effect from each unit, thus we see that small doses are comparatively more efficient than large doses of insulin. These conclusions also indicate that the most efficient treatment of acidosis, so far as the use of insulin is concerned, would be the administration of small doses of insulin together with enough carbohydrate to ensure sufficient glucose for the optimal insulin action.

Andrews⁵ in his experiments on dogs, has shown that the effect of insulin will depend upon the degree of dehydration, the integrity of the portal circulation, and the route of administration of the drug. In the presence of dehydration the insulin effect is intensified and prolonged. Conversely, when there is superhydration the depressing action of insulin upon the blood sugar is almost lost.

If our primary consideration was simply the lowering of the blood sugar, we should make an effort to induce rather than combat dehydration; but since our aim in treatment is the mobilization and utilization of blood sugar to build up new protoplasm, we will give fluids copiously.

INITIAL EFFECT OF INSULIN

The first effect of insulin is an increase in the blood sugar, possibly due to a stimulation of the adrenals with a consequent mobilization of sugar from the liver and muscles. That this preliminary rise in the

blood sugar is dependent upon the integrity of the portal circulation was proven by Andrews⁵ when he showed that there was no preliminary rise in the blood sugar after the administration of insulin to patients with cirrhosis of the liver; neither would adrenalin cause a rise in the blood sugar in these cases. He concludes that dehydration interferes with sugar mobilization by impeding the portal circulation.

In 1925 Corbitt⁶ concluded from animal experiments that "The effect of insulin injections increases proportionally to the distance from the circulatory system at which the injections are made. Hence, intravenous injections are the least effective, intramuscular and subcutaneous injections are considerably more effective, and intradermal injections have the greatest effect of all."

Meltzer and Klein showed a somewhat similar effect for adrenalin in 1914¹⁰.

Mueller and Corbitt⁷ think that these results signify that the effect of adrenalin lies in its ability to exert a specific stimulation on the sympathetic nervous system, and that the effect of insulin lies in its ability to exert a specific stimulation on the parasympathetic or autonomic nervous system. Atropin, which blocks off the post ganglionic end organs of the autonomic system, inhibits the effect of insulin. Both adrenalin and pituitrin inhibit the effect of insulin. If we would profit by this experimental data, we should refrain from giving our diabetics any drugs that will either stimulate the sympathetic or impose a block in the autonomic nervous system. Therefore, we will not administer adrenalin, pituitrin, or atropin, except in cases of dire necessity.

In extreme cases Joslin¹ believes in starting the patient off with a small dose of insulin intravenously, but cautions that in all cases a similar or larger dose should be given subcutaneously. The intradermal administration of insulin requires a very concentrated preparation of the drug, and at best is quite painful. For our use we will depend upon the subcutaneous route. We will regulate our dosage by the height of the blood sugar, the CO₂ of the plasma, the glycosuria, and the ketonuria. We will administer glucose, not with the thought of protecting our insulin, for that would signify that we did not know what dose of insulin to give, but we will give the glucose to spare the glycogen reserves in the liver and muscles. Probably the best method of administering the glucose is in the form

of a five per cent solution per rectum. Joslin⁸ claims that by this method the blood sugar does not rise so high and the ketone bodies disappear as rapidly as when the glucose is given by mouth.

Janney and Shapiro⁹ contend that insulin has two functions, first glycolytic, and second protogenic. In the presence of the insulin stimulation the glucose is broken up into intermediate carbohydrate metabolites, which unite with the ketone bodies to form protoplasm. They hold that acidosis is a form of protein starvation in which the body cells are not able to regenerate, that the coma does not necessarily depend upon the extent of the acidosis, but rather that the acidosis and the coma are both dependent upon cellular degeneration.

The administration of glucose and insulin will again establish the process of cellular regeneration, and our prognosis will depend upon the extent of cellular degeneration and dissolution in each case.

USE OF ALKALIES LIMITED

As to the use of alkalies, I can see only on one indication, and that is not essentially diabetic. When the acetone and the diacetic acid have disappeared from the urine and the patient is still in acidosis as determined by a low CO₂ of the plasma, then it is time to administer soda. It is best given in the form of a three per cent solution intravenously, or preferably with glucose per rectum.

I think the most distressing complication in our cases of acidosis has been the oliguria and anuria. The most effective treatment for this condition is the forcing of fluids with glucose and insulin to increase the blood volume and facilitate the renal circulation. When stimulants are required it is well to use caffeine sodium benzoate grain 5 to 7 as indicated. The routine use of digitalis may prove useful when the pulse is over 100 per min. Small amounts of whisky may be given for its caloric value. We will not use drugs that will in anyway interfere with the effect of insulin. It would be interesting to go over our charts and see how many of our fatal cases had received adrenalin.

The trend of treatment is constantly to use smaller and more frequent doses of insulin, with enough glucose to spare our reserve glycogen and ensure a maximal rate of tissue regeneration. When the patient has regained consciousness we can give a liquid diet in the form of milk, orange juice, and egg nogs. The diet is carefully

calculated, the urine is tested every four hours, and an appropriate dose of insulin is given when sugar is found. The amount of insulin necessary to keep the patient sugar free for 24 hours is then calculated. This dose may then be divided and given before meals. It is especially important that the patient eat all the food on the tray, when the insulin is given before meals. Any food that is left must be returned to the diet kitchen and reserved in some form suitable to the patient; otherwise our next case of coma will be one called hypoglycemia, in which the administration of insulin is not indicated. A 24-hour specimen of the urine should be examined daily until the patient has completely recovered from the acidosis, and is sugar free on a well balanced diet.

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THE MEDICAL SCIENCE DEPARTMENT OF THE DETROIT PUBLIC LIBRARY

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I have thought a brief account of the history and administration of the *Library of the Wayne County Medical Society* might prove interesting to the readers of the Journal and place a matter of historic interest in a permanent abode of record.

Mention is made in the Constitution of the Wayne County Medical Society August 21, 1876, of the purchase and care of books. The Detroit Medical and Library Association was organized September 6, 1876. In 1902 it united with the Wayne County Medical Society, turning over its collection of books to the Public Library Commission of the City of Detroit. In 1910 the Commission relinquished the Library and it was housed in the building of the Society,

65 E. High street, now the Vernor Highway, East.

July 1, 1923, at the request of the Medical Society the Library Commission again took over its library and instituted the *Medical Science Department of the Public Library*. This is now housed on the third floor of the new unit of the Detroit College of Medicine and Surgery, which college since 1917 has been under the control of the Board of Education of the City of Detroit and forms an integral part of the educational system of the city.

The Public Library Commission has control of the library, purchases the books and periodicals, pays all salaries and other incidental expenses. An Advisory Committee, called the Library Committee of the Wayne County Medical Society, has been appointed by the Medical Society and its function is to advise regarding the purchase of books and any other routine of this department. The Detroit College of Medicine and Surgery through the Board of Education provides light, heat, and janitor service but in no way controls or administers the library.

Throughout these years the cost of enlarging and maintaining a library commensurate with its importance to our rapidly growing city became a very serious problem to the Trustees and the Library Committee of the Medical Society. Now that it was safely housed and under the control of the Public Library Commission, provided for in the annual budget, thought has been given to its enlargement and perpetuation. At the suggestion of the late Dr. Herbert M. Rich, for many years Chairman of the Library Committee of the Wayne County Medical Society, the importance of a well equipped library to the profession, and indirectly to the public, was placed before the Mayor and the Common Council by the insertion in the last annual budget of the Library Commission a separate item of \$12,500, the same to form a fourth annual appropriation of a total sum of \$50,000, which this Committee acting with the Library Commission deemed to be the minimum sum necessary to equip the Library. Fortunately His Honor, the Mayor John W. Smith, and the Common Council were convinced by the views presented them and allowed the item in full. It is earnestly hoped, now that the start has been made, that favorable action will again be taken during the coming years. The Library Commission has inserted the same item in its budget for 1928-29.

At the time of the grant of the first \$12,500 it was agreed that the Wayne County Medical Society should, to show its earnestness, appropriate through its membership one-tenth of any amount allowed by the Mayor and the Common Council and this sum of \$1,250 has been received by the Library Commission.

In addition the Library Commission is to receive through the generosity of Mrs. Clarence A. Lightner, daughter of the late Dr. Theo. A. McGraw, and Mrs. Theo. A. McGraw, Jr., daughter of the late Dr. Howard W. Longyear and wife of the younger McGraw, the income from a sum of \$20,000 deposited in trust with the Detroit Trust company, given to perpetuate their memory in this dignified and practical manner.

With this these donors have given to the Library Commission the sum of \$1,000 to bring the collection up to date.

It is not necessary to go into the life history and work of Dr. Theo. A. McGraw and his only son Dr. Theo. A. McGraw, Jr., except possibly to call attention to the fact that during the latter years of his life the younger McGraw devoted his work to the Internal Secretions and that, as the field of surgery is so broad and it is desired by the donors that the books and periodicals purchased in memory of both shall be housed in the same room, it has been requested that the field of Surgery be limited to the Surgery of the Thyroid Gland because of its close relationship to the glands of Internal Secretion.

In a Memorandum of agreement made the 20th day of December, 1927, between the Donors and the Detroit Trust Company, the following provisions among others are made:

"The net income arising from the securities set forth in the *schedule of property* and from the investments and reinvestments of all moneys and other securities which shall at any time be in the hands of the *trustee* hereunder shall be paid, in quarterly or semi-annual installments, as shall appear most convenient, to the *Detroit Library Commission*, to be used by it exclusively for the purchase of new books and periodicals for that portion of the Detroit Public Library which was obtained from the Wayne County Medical Society, and the *Donors* hereby direct that particular care shall be exercised by said Detroit Library Commission to secure all worth while literature in existence relative to internal secretions and surgical treatment of the thyroid gland. The *Detroit Trust com-*

pany shall not be responsible for the application which the said Library Commission shall make of the income delivered to it and said Library Commission shall treat the foregoing statement as to the character of the books and periodicals to be purchased as a recommendation rather than a restriction, except that only medical or surgical books and periodicals shall be purchased with the income provided thereunder.

Should it ever hereafter occur that the books obtained by the Detroit Library Commission from the Wayne County Medical Society shall be returned to said Society, and the custody and control thereof be again vested in the Trustees of the Wayne County Medical Society rather than in the Detroit Library Commission, the *Trustee* hereunder, upon being informed thereof, shall pay to the Trustees of the *Wayne County Medical Society* the net income which it is above directed to pay to the Detroit Library Commission, and the Trustees of the Wayne County Medical Society shall use the same for the purpose above mentioned."

At a regular meeting December 20, 1927, the Library Commission formally accepted with pleasure the gift offered through Mr. Clarence A. Lightner, one of its distinguished members.

Thus through the work of the Library Committee of the Wayne County Medical Society and the Detroit Library Commission, the generosity of the City through the Mayor and the Common Council, the generosity of Mrs. Clarence A. Lightner and Mrs. Theo. A. McGraw, Jr., and the Board of Education of the City of Detroit excellent care will be taken of the library, already comprising 23,604 volumes of books and periodicals.

THE HUMAN CONSTITUTION*

GEORGE DRAPER, M. D.

NEW YORK CITY

From the Department of Columbia University; College of Physicians and Surgeons and the Presbyterian Hospital. Being the seventh series of lectures delivered before the Wayne County Medical Society, Detroit, under the Beaumont Foundation.

Dr. Draper was introduced by Dr. James E. Davis, chairman of the lectureship

foundation, who briefly sketched the history of the Beaumont lectureship. He referred to the line of thought of the present lecturer, quoting a reference to him made by Sir Arthur Keith, who referred to him as one who sought to link up the machinery of growth, the machinery which gives the body its shape, texture and constitution with its liability to disorder and disease.

The Human Constitution, Its Significance in Medicine and How it May be Studied, was the title of the first lecture. The subjects of the three lectures were vast in their extent because they dealt with human beings, no two of whom were alike not even for identical twins. The anthropologist claimed that identical twins were alike even bone for bone but the painter of identical twins showed two different individuals. This could fairly be said to represent the science and the art of medicine. Medicine up to the present was mechanistic. It dealt with disease almost to the neglect of study of the human organism. It should, however, be remembered that we cannot have disease without having a man or woman or child to have the disease. We knew all about the morphology of the bacteria of typhoid or meningitis but we did not know all about the person having the disease. The old-time doctor knew practically little about the bacterial cause of disease but he knew the peculiarity of his patient. Dr. Draper claimed that there was nothing new in the method of study he advocated, as it was originated by Hippocrates. What he aimed at was to bring to it greater exactness. The term human constitution was defined as embracing the aggregate of hereditary characters, influenced more or less by environment which determined a person's reaction to his environment. The patient who presented himself to the physician must be looked upon as a result of the combined influence of both heredity and environment. The term phenotype was used to designate such individual. He might therefore differ to a certain extent from his natural inheritance or "genotype" pattern.

GENETIC STUDIES IMPORTANT

The speaker dwelt upon the importance

* The Beaumont Foundation was established about eight years ago by contributions of a number of members of the Wayne County Medical Society. The annual income from the fund has been sufficient to meet the remuneration of the lecturer as well as expenses in connection with the publication of each series. The annual event is more than local interest commemorating as it does the work of one who has made this State famous in the annals of physiology. These lectures are announced each year in this

Journal, which means that the members of the Michigan State Medical Society are welcome to attend. A very much condensed report of Dr. Draper's lectures is presented here. No attempt has been made to report verbatim but an endeavor has been made to give the substance of the lectures. Dr. Draper is not responsible for any reportorial shortcomings. The complete volume fully illustrated will appear in due time from the press of the Williams and Wilkins Company, Baltimore. It will be announced to our readers as soon as it is published.—Editor.

of genetic studies for the medical clinic. This had been stressed by Barker of Johns Hopkins who pointed out the possibility of obtaining data to elucidate genotypic patterns. A slide was presented showing such external characteristics as ptosis of the eyelids, subcutaneous fibromata, redundant bulbar conjunctiva. Other members of the same family showed the same characteristics which went to indicate hereditary or genotypic tendency to excessive development of mesodermal tissue. We had a hint from this as to the vital capacity of other tissues. The patient presenting these external marks had also a mild diabetes for which relief was sought.

The speaker next cited instances of the effects of environment, illustrating by the effect of castration on long bone growth. An instance was given of an individual who had grown six inches within a few months following a destructive orchitis due to mumps. Again a variety of inadequate constitutional states was found to follow malnutrition in early youth. These affected the physiological phase. The psychic panel was of equal importance but as yet there was great difficulty in dealing with this aspect of the study of construction because of the absence of adequate tests of psychic reactions. There was every reason to believe that the endocrine glands were directly influenced by emotional stimuli.

ENDOCRINES AND GROWTH

It is common knowledge that the gonads, pituitary and thyroid glands were definitely involved in the phenomoma of growth and development. The adrenal glands have a definite relation to the mechanism of self-preservation. Emotions concerned with self-preservation or perpetuation could produce marked physiological change simply by influence on these endocrine glands. The appearance of typical Graves' disease has been seen to follow fright. A fear established in childhood may continue in the subconscious and so affect the thyroid influence on growth process. Fears may affect various individuals in different ways as the same individuals would react in different ways to chemical and bacterial agents.

A complete study of any individual or phenotype should include not only observations of his special qualities as expressed in the four phases of personality; namely, his genetic and environmental history should be gone into as well. The constitution changed with the different stages of

growth and development. These stages or epochs were described by Dr. Draper as that which precedes puberty; the years of puberty; the longer stretch of active adult life; the climacteric; and lastly the period of decline. The continual change in the phenotype depended upon the continual accumulation of paratypic influences. The doctor stated that so far, his studies had been confined chiefly to the period from puberty to the menopause.

BASIC TYPES

The lecturer went on to deal with the subject of classification which had recognized two basic types—the long thins and the short thicks, blendings of which were found in great number and variety of expression. At his constitution clinic a somewhat different mode of reasoning had been adopted; namely if a special type of human being were necessary to the development of a given disease, then the presence of that disease pointed to a special constitution as its subject. Studying the personality of certain disease groups, particular ulcer and gall bladder groups, it had been found that the former were almost entirely the long thins while the latter were short stouts. Two other distinct influences had been noted which could not properly come under the two classes mentioned. They were the result of two distinct aspects of the growth and development process. One represented the various expressions of gynandromorphic phenomenon. (This phase was discussed in the second lecture). In the second case we had the effects of uneven growth and development rates among the different panels of the same individual. An example was the tall adolescent who appears older and mentally more mature than his years indicated yet found it difficult to make adequate social adjustments owing to retardation of his emotional development. This class indicated a totally different idiotypic pattern from the ulcer and the gall bladder classes.

With few exceptions, the speaker claimed, all classifications of human beings today were based upon morphology. Quoting from Hippocrates "some are hollow, and from broad contracted into narrow; some expanded, some hard and round, some broad and suspended, some stretched, some long, some dense, some rare and succulent, some spongy and of loose texture." Since his time under a variety of names we have had the two basic types, the long and the thick. Not much progress in classification has taken place in 2,500 years.

Dr. Draper observed types of lower jaws that appeared characteristic of each type; namely, the strong right angled jaw of the gall bladder race as opposed to the obtuse jaw of the ulcer race.

The clinician, however, should go farther than morphology. Following the advice of John Hunter he should at least think of the functional purpose of anatomical structure.

Regarding the immunological phase, everyone has noticed how various persons react to infective microorganisms. Susceptibility varied all the way from complete resistance to no resistance at all. Thanks to such methods as the Schick, Von Pirquet and Dick tests, it is possible to check up the individuality to certain epidemic diseases.

MINDBODY EMPHASIZED

The lecturer concluded with an account of the fourth or psychological attribute which he claimed was by far the most difficult aspect of the constitution to study. The general conception of the psyche was somewhat vague and ill defined. The proper conception of the psychic included the physical. The continuity of body and mind was stressed. The fusion of psyche and soma forced us to think of the animal organism Man as a totality or mindbody. The speaker studied his patient segmentally as indicated following with a synthetic correlation of his findings. The methods of studying the psyche consisted of direct observation of personal traits such as attitudes and gestures and the analysis of the conscious and unconscious mechanism.

"Clearly", said the speaker, "the study of human constitution is not an easy task, but it is a fascinating and proper one, and to it should be brought the best thought which many minds can provide. Medical schools should see to it that students are brought face to face with their ultimate responsibility; man in all his mystery and magnificence, before they are taught his disease. For we shall never comprehend disease until we understand both factors which produce it—the external agent and the phenotype."

SEX AND DISEASE POTENTIALITY

The second lecture dealt with "The Influence of Sex in Determining Human Disease Potentiality." Sex, it is known had profound influence upon structure and functional activities of an individual, though its chief importance was relative to the generation of new individuals. It

was the mechanism in the higher animals which insured the continuity of the species. The germ or sex cells were physiologically distinct from all other body cells in that they alone have the potency of existence from generation to generation. Furthermore, the germ cells existed in metabolic isolation from the rest of the body to the extent that they were rarely affected by destructive body metabolism. On the other hand, secretions from the germ glands had a profound affect upon the body, both structurally and functionally. Though the impression might be gained that the maleness or femaleness of an individual was dependent upon sex glands alone for their secretions, there were certain discomforting facts from the consideration of certain invertebrate animals. In the gypsy moth, for instance, the animal proceeded its evolution of male or female characters regardless of the gonad conditions as affected by operations. The gonads might be destroyed, or reciprocally transplanted without affecting the development of those characters ordinarily associated with male or female gonads. In the mammal and bird conditions were different. In the brown leghorn fowl and the Sebright bantam when the male was castrated and the ovaries are grafted in place characteristics that were essentially female appeared; when the female was spayed the spurs and comb and plumage of the male animal appeared. In mammals the replacement of testes by ovaries was associated with the development of female secondary sex characters. A further example of the labile condition of the body in response to sex gland secretions was the free martin of cattle. Here a male and female foetus had the same placental blood supply carrying secretions from the sex glands of both into the bodies of each twin. Abnormalities were found in the developing accessory sex characters of the potential female twin so that it becomes a sex intergrade, having poorly developed parts of both the male and female. Sex as a gross character in the higher animals was not to be thought of as an utterly predestined condition but rather as the resultant of the reaction of a sex gland or one type upon a body which had the potency of development along either path of sex specialization.

In castrated individuals there was found to be considerably more effect upon the male than upon the female. In fact the castrated male took to itself distinctly female characters. It was inferred then that the female followed more closely than the

male true neuter type of human—the ideal type of human if existed in a sexless condition.

The male possesses during his life a higher metabolic rate than the female; in fact, the greater activity of the male may be figuratively expressed in the activity and motility of the sperm with the quiescence of the ovum.

METABOLIC CHANGES WITH AGE

Each sex presented certain metabolic differences before puberty, during the period of sexual vigor and at the climacteric. For the medical practitioner these metabolic differences as related to sexual conditions had a profound effect upon the susceptibility of individuals to disease.

A consideration of this type on the effect of sex on individuals at different times of life presented an interesting relation to the problem of hermaphroditism. Clinically, hermaphrodites were differentiated into the rare true hermaphrodite who possessed both ovary and testes, the more common pseudohermaphrodite who possesses only one sex gland but whose accessory sex characters were partly those of one and partly of the other sex, and finally gynandromorphs whose sexual apparatus is normal yet who possessed secondary sex characters which approached those of the other sex. It was this last type which presented the so-called "femaleness of the male" and the "maleness of the female."

The speaker gave a more or less detailed account of four cases of gynandromorphism, three male individuals and one female individual, which typified the morphological and psychological characteristics.

The three male cases presented a feminine distribution of hair and subcutaneous fat, pendulous breasts and more or less feminine psychic traits. In two the genitalia were small and atavistic and there was a partial in one and a total cryptorchidism in the other. Mentally there were strong feministic characteristics, lack of libido, in fact a tendency toward androphilia. The other male case showed evidence of normal sex life. The single female discussed presented a decided boyish figure, almost typical male baldness and male distribution of hair. The primary female characters were sufficiently distinct to allow conception though this was followed after a few months by abortion. The menstrual cycle was abnormal.

Attention was called to the relation in symptomatology between the adrenal cortex and the sexual condition. The two sys-

tems are associated in their embryonic development. And in tumors of the adrenal in adults there is noted a period of high functional activity followed by a period of depressed sexuality. The susceptibility to adrenal tumors was higher in women than in men and was usually associated with changes to virile secondary sexual characters. As had been indicated, the abnormal facies of an individual may be associated with an abnormal sexuality. There was likewise a profound relation between the sex and susceptibility to disease.

SEX RELATION TO DISEASE

In general males were more susceptible than females to disease conditions. It thus followed that there was probably a higher mortality rate among males, though this point may not be evident. Statistics were available which indicated that there were 160 male abortions to each 100 female, 130 male still births for every 100 female, and 104 male living births for every 100 female, and after a year there were 97 males and 100 females.

Dr. Draper enumerated fifty or more diseases for which one sex or the other had a predisposition. One interesting group of conditions was that which was definitely hereditary and was sex linked, being dominant in males and recessive in females. Hemophilia, coloboma, colorblindness, nystagmus and multiple sclerosis were diseases of this type. Some of the diseases which more readily affected men were gout, gastric ulcer, pneumonia, amoebic dysentery, angina pectoris, tabes, and alcoholism. Women were more often than men affected by migraine, hysteria, hyperthyroidism, influenza and obesity.

In conclusion it was apparent that the male and the female body reacted to the conditions of the environment differently; they are differently specialized and react differently. This difference was apparent in the relative incidence of disease. Disease might affect the body as a whole or it might have very localized effect such as were evidenced by hair distribution or local organ affection. It might thus be concluded that the condition of sex was involved in every cell of the body.

THE PHYSICIAN AND THE PATIENT

The third lecture of the series dealt with the relationship of physician and patient. Among the audience was a fairly large number of men and women not directly connected with the medical profession. There had always been criticism of the

medical profession, Dr. Draper went on to say, some of which partook of humorous references in the press and the stage. A form of criticism was to be found in the astonishing increase in cults and quackery. Yet no field of human endeavor could boast of such a galaxy of great names as the profession of medicine. Even Bernard Shaw who satyriized the physician in his *Doctor's Dilemma* would be one of the first to call in one of their number if he felt his heart giving out with the distressing shortness of breath.

Even in spite of the physician's honest efforts to improve the quality of his service, he would always be limited by more or less incomplete knowledge and by imperfect technique. The physician was also at times hampered by lack of cooperation on the part of his patient. By the patient's attitude towards his physician he might prove a valuable ally or on the other hand an opponent whom it is impossible to help. The speaker went on to dwell upon the patient's part in the peculiar relation of patient and physician.

ANTAGONISTIC NATURE OF DISEASE

Disease was compared to a quarrel between a particular set of qualities in the human being and a particular set of forces in the environment. Environmental forces may be physical, chemical, bacterial or psychological violence. To oppose these nature sets up defenses within the living organism, but the defenses may not be all of equal strength and it is the function of the doctor to discover the strong and weak links in the patient's defense chain. This meant an adequate understanding of the invalid and his peculiar environment. Individuals differed widely in their disposition towards the environmental factors which produced disease; that is, each one's weak point lay in a different aspect of his individual constitution. This was explained by the fact that two persons might be subjected to meningococci for instance and one would be unscathed while the other would succumb to the disease. The speaker went on to say that while a great deal of investigation had been done regarding the meningococcus very little had been done on man in relation to the disease, that is, regarding the reason two persons differ so widely in their reaction to the causative microorganism. Dr. Draper claimed that future medicine would study man as thoroughly as the environmental agents were now studied. This meant a study of human personality or constitution.

The qualities of human beings be divided into four classes; morphological, physiological, immunological, and psychological. The last included a careful history of the emotional life of the patient from his earliest childhood. It was necessary to correlate these four aspects which entered into the human constitution. "This conception of the unity of mind and body, welded together by the spark of life into an amazing, palpitating flux of vigor and sensibility," said the speaker, "is one we must hold before us constantly."

CIRCUS OF RINGS AND STAGES

Personality changed continuously from infancy to old age through successive epochs of development, such as prepuberty, pubescence, completed adult, climacteric and senescence. This was evidently due to shifting relationships within the glandular system. This phase of the subject was illustrated by means of a lantern slide diagrammatic of a great circus consisting of three rings and two stages. Within the rings and on the stages human beings went through acts in keeping with the capacities pertaining to each period of growth and development. The prepuberty ring included children from birth to thirteen or fourteen years of age; the parent was the ring master. This period of life was characterized by rapid growth, low resistance to infectious disease, and a marked capacity for imitating. The controlling instinct was self-preservation. The speaker dwelt upon the importance, particularly in regard to later life, of the reactions of this period on the psychic side. Children at this time were impressed for good or bad by the parent ring master. Sometimes the result was failure to attain full self-expression on the part of the child.

Then we come to puberty stage or the period of adjustment of the physiological forces. Here the ring master was the school teacher. Carrying out the metaphor, this was the age of the seals balancing balls on their noses or bears riding bicycles, their success or failure being rewarded by praise or punishment on the part of the ring master. There we had demonstrated the evils of mass education. This was the stage in which was developed self confidence or its counterpart the sense of inferiority.

The next stage was that of the mature adult; the director is somewhat ill defined but partook of the nature of a hampering influence.

The final was the "ring" of senescence

and the ring master was habit. If the preceding stages had been well managed the final ring might be the most interesting, useful and happy, "Grow old along with me, the best is yet to be, the last of life for which the first was made." With diminishing physical powers we had enlarging power of thought and creativeness. Creativeness in the realm of thought in the opinion of the speaker, had often reached its highest expression in this period.

One thing to be noted was the continual change which took place in human life much as we observed it in the circus. The biological forces within the individual were constantly ebbing and flowing.

"In the past fifty years or so, so much emphasis has been placed on the external cause of disease by the medical profession that physician and layman have rather come to feel that the emotional and psychological aspects of life have little to do with the production of ill health. But no thinking person can fail to realize that man is not divided into two compartments, one of which is mind and the other body. Human beings are not minds and bodies; they are "mind-bodies." This significant paragraph sounds the key-note of Dr. Draper's message.

In a curious way physicians stood in their own light. They in a way represented disease, because if it did not exist the physician would not be called upon. He represented to his patient a dual symbolism; namely hope and health and on the other hand disease and death. The last has its effect on the remote level of the subconscious mind. The fearsome element of the physician's symbolic presence was eliminated by mutual confidence between himself and patient.

THE PSYCHIC PHASE DIFFICULT

The most difficult problem for the physician was the investigation of the psychological phase of the constitution. Difficult as it was for many patients to submit to a physical examination, it was still more difficult to the stripping of one's soul in the presence of someone else. Patients frequently protested, wondering what the history of childhood frights and humiliations had to do with present indigestion, asthma or headache. The patient often demanded only medicine and a diet and very frequently went from doctor to doctor obtaining no satisfaction in the end. Most fears, however, vanished when squarely viewed. Thus we had the importance of both patient and physician scrutinizing the

details of the patient's emotional life history. There should not be any less attention devoted to the physical examination. But to omit study of this; namely, the psychic phase of the patient's constitution was as serious as to omit certain phases of the physical. It was the reciprocal masquerading of the mental and bodily symptoms that made the physician's work so difficult. Mental and bodily symptoms expressed in terms of suffering the unity of the whole organism. The great majority of ills with which patients come to doctors were not due so much to organic disease but poor adjustment between the psychological and physiological aspect of the individual. Every state of bodily suffering organic or functional included an emotional factor. Over-emphasis of the psychological aspect of physical disease was as dangerous as to exclude it entirely. It was the physician's place to apply the proper emphasis to each. In conclusion, the speaker predicted that the physician of the future would be called by an intelligent public to investigate not only the environmental or outward causative factors but also the defensive forces of the patient's total personality. Hence the necessity of mental confidence between physician and patient.

TUBERCULOSIS — PROGRESS MADE IN DETROIT, COUNTIES, AND STATE OF MICHIGAN

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The population of Detroit has risen in leaps and bounds, being at present over 1,700,000 for Greater Detroit. Having passed several cities in the last few years, it is now frequently predicted that Detroit will exceed the 2,000,000 mark of Philadelphia in 1930. Admittedly, too, the great stronghold of this city is industry. That means that the ages 20 to 30 years predominate, the age group which exceeds in death and sickness rates in tuberculosis. It is therefore apparent that as the industrial population increases, preventive and treatment means for tuberculosis should be increased and in greater proportion, but has that occurred?

Let us compare, for instance, the figures of Michigan with that of Pennsylvania: Michigan, 4,490,000 in 1926 (Greater Detroit, 1,702,314 in 1926). Pennsylvania,

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9,208,986 in 1924 (Philadelphia, 1,908,644 in 1923). The State of Michigan has but 228 beds in one institution, Howell, whereas Pennsylvania has built and maintains three large sanatoria with 1,600 beds. Furthermore, Michigan as a State does not maintain a single hospital or sanatorium accommodation for bed patients, while Pennsylvania, in addition to the above 1,600 beds, maintains hundreds of beds for the tuberculous in various hospitals and sanatoria in or near Philadelphia alone.

Comparing the City of Detroit with Philadelphia, however, we have an entirely different picture. Detroit has built and maintains two large institutions having 625 beds for tuberculosis, namely Herman Kiefer Hospital and Wm. H. Maybury Sanatorium, Northville. These hospitals are fully staffed and equipped to carry out all the up-to-date methods of treatment in this disease. In addition to the 625 above beds, within two years Herman Kiefer will have an increase of 200 beds and the Maybury Sanatorium, 60 more, making in all 885 beds. (This does not include the 100 preventorium beds at Northville.) The City of Philadelphia, on the other hand, maintains only the wing for tuberculosis in the Philadelphia General Hospital. As to dispensaries (out patient clinics), both cities maintain sufficient to cover the areas concerned, giving modern up-to-date service in all respects.

Thus it is seen that Detroit's measures have progressed rapidly in proportion to its growth while the State of Michigan is some 25 years behind. I do not desire, however, to give the picture that this city has sufficient beds for its tuberculous patients for the real facts are from such. In spite of having advanced rapidly, Detroit's program of beds for the next two years is insufficient. The present day aim is to have at least one bed for every annual death, but more on this position later. Much credit, however, must be given to the Detroit Board of Health for its wonderful work in spite of its small budget.*

There are 2,200 beds in Michigan including the County institutions, the Municipal institutions, private and semi-private institutions and the State Sanatorium at Howell. As to the counties, there are some who have institutions of their own, as Gogebic with 104 beds, Delta-Menominee, 73 beds; Houghton, 51 beds; Marquette, 33 beds; Schoolcraft, 25 beds, and Onton-

gon, 14 beds in the upper peninsula, but two having 50 beds or more. In the lower peninsula we have Calhoun, 54 beds; Kalamazoo, 50 beds; Ingham, 26 beds; Wexford, 25 beds; Jackson, 22 beds; Muskegon County Sanatorium opened June, 1925, and Oakland county, 165 beds, which opened June 15, 1927. Twenty-seven of 59 counties are modified accredited in bovine tuberculosis eradication, but apparently much less attention has been given to human tuberculosis in many of these.

It is apparent, too, that most counties, including Wayne county, have no beds whatever, this being a particularly outstanding fact inasmuch as Detroit and Wayne county together form almost one-third the population of the state and pay approximately one-half of Michigan's taxes. In three townships of Wayne county 18 patients have been waiting for beds. A vacancy was finally procured for one of these, but the patient was returned home because she was a bed case. Wyandotte has 23 cases registered. Monroe county has 73 diagnosed cases, while Oakland county has 53 cases of "positive and suspicious" tuberculosis.

Is prevention and treatment of tuberculosis the responsibility of the state or the county? Is Pennsylvania very generous, or is the State of Michigan recalcitrant. It has been rather a recognized fact that the responsibility of supplying beds is truly the state's. However, the county, as such, should take a share of that responsibility, as is now being done in some of the eastern states. It is in that way that rapid action may be forthcoming. *The matter of a larger number of sanatorium beds being built is urgent.* Taking mortality figures in tuberculosis in various countries, the number of deaths is generally less where the proportion of beds is greatest. In an exhaustive study on this subject Drolet enumerates the important factors as (1) Beds; (2) The general living and working condition; (3) Racial resistance.

HAVE A PHYSICAL EXAMINATION

Health generally has been given a great impetus, it is gratifying to see. One of the well advertised posters is "Have a yearly physical examination"—another is, "If you present any of the following symptoms of tuberculosis (symptoms enumerated) consult your physician or the Board of Health Clinics at once"—also, "An early case of tuberculosis is curable, whereas later it may be too late." However, requests for beds for cases only suitable for sanatorium

* In 1926 of each dollar raised by taxation in the City of Detroit 23.23 cents went for public education, 10.94 cents for police protection, .72 cents for fire protection, and only 2.96 cents for health.

are usually followed by long and longer delays with permanently damaging results.

Accordingly patients must be treated at home; too often in unhealthy surroundings and with children exposed to the infection. There is no doubt, however, that home treatment is preferable to institutional care in suitable cases. To be successful—and it can be—the carrying out of all the details of treatment is absolutely necessary. The population of Detroit, as in all of the big cities, includes a large foreign element, often not yet fully Americanized, with large families crowded in a few rooms at the best. Unfortunately, only exceptionally can we here get complete co-operation for home treatment in all the necessary details. This is shown very conclusively by our experiment in this demonstration area of treating 14 cases of pulmonary tuberculosis at home. In this work it was found that the first result of American influence is derogatory, but after the American influence becomes predominant, the beneficial factors reach a very high standard from a health co-operation angle. The nurses visited at least twice weekly and in several cases much oftener, the physician attending once a week.

In this day of rapid progress people are inclined to look for spectacular results. In many ways and occasionally in medicine their appetites have been satisfied. This cannot be said of tuberculosis, however. In addition to various other health improvements producing better results in this disease, however, there has appeared, if not a spectacular, certainly a great discovery in treatment—namely that of artificial pneumothorax. It is an outstanding fact in the campaign against tuberculosis that this great discovery can be used in only a small number of suitable cases because of the lack of beds both in Detroit and in the counties. This is equally true in the case of other very useful surgical procedures.

The City of Detroit Hospitals, Herman Kiefer and Wm. H. Maybury Sanatorium, are both well able to give the artificial pneumothorax treatment, as they are already doing in suitable cases. The ideal patient for this method is unilateral involuted with little or no adhesions. This means that it is necessary to get the disease early, for the more advanced the disease, the more difficult to get complete cures. For the actual treatment a hospital bed is advisable at first, but later in many cases the refills can be given in the outpatient department or in the dispensary,

the patient living at home and at times even continuing with his work. It should not be necessary to wait for such beds. The sanatorium best supplies the proper rest, fresh air, sunlight and nourishing food. It is also the place for graduated exercises until the patient is able to work, he being at the same time educated in how to live the ordinary home life under his changed physical abilities.

EARLY DIAGNOSIS ADVANTAGE

With the present aids, including the irreplaceable Roentgen ray, the diagnosis can certainly be made very early in most patients. However, in exceptional cases careful in-patient observation is required. It would result both in more cases being diagnosed as such who have tuberculosis and less cases being diagnosed as such who have not tuberculosis. This is more particularly true in children. It is most surprising how often complete signs of a lung condition in children, especially the younger ones, will clear up in two weeks and occasionally within 24 to 48 hours.

When the state or county, or both, build sufficient number of beds, the City of Detroit will be able to take further advantage of modern advancement in scientific treatment for tuberculosis, the city being equipped in personnel and material to do so now. All suitable cases could be admitted as soon as diagnosed, giving the patient the best opportunity for a complete recovery. Some of the city's beds could then be used for initiating artificial pneumothorax, and other beds for diagnostic purposes in doubtful cases.

TUBERCULOSIS DEATHS REDUCED 50 PER CENT

Reduction of deaths from tuberculosis in the whole United States was 50 per cent in the last 20 years. In the past year, however, there was a slight rise in deaths in the industrial groups, breaking the sequence of progressive death rate decline (this rise was probably due to increase in death rate in colored persons). The reductions have been rapid, but naturally the future progress will be much slower unless we make a further determined drive, the base of which is necessarily more sanatorium beds. By reducing death rate from tuberculosis 50 per cent since 1907, United States saved \$550,000,000 a year, or \$5.00 per capita of United States population. What has become of these savings?

"A family, in which a death from tuberculosis of either parent would have occurred under 1907 conditions and in

which such a death did not occur, has a resultant economic benefit greatly in excess of any amounts which it would expend for insurance. Almost certainly it has bought an automobile or possibly a series of automobiles. A large sum of this tuberculosis saving has gone into the pockets of Henry Ford, and from there into the upbuilding of that marvelous city by the Straits, which is rapidly becoming one of the wonders of the world.

"The General Motors Corporation recently distributed an enormous surplus. The savings resulting from the decrease in tuberculosis constitute one of the important factors in the fertilization of the field in which that melon was grown. The Standard Oil etc."*

SUMMARY

In spite of the progressively lowered death rate, tuberculosis is the most costly disease to the community, its victims coming largely from the industrial age group. "Death or disability at this time brings not only sorrow but actual privation and frequently is the direct cause of the breaking up of families. Money invested in the tuberculosis fight not only provides curative measures for individual patients, it helps to reduce the amount which otherwise has to be spent to maintain the widows and orphans of tuberculosis victims."

At present there is a great lack of beds in the cities, counties and State of Michigan. The Tuberculosis Society of Detroit and Wayne county, as well as the Tuberculosis Societies of the state and other counties, have greatly advanced in their educational program both in children and adults. Repeated physical examinations are urged, but this very useful work in prevention and treatment is only too often minimized because of the impossibility of getting institutional care. *The greatest source of infection is an open case of tuberculosis in a home containing children especially when overcrowding exists.* The longer the patient remains at home, the greater the risk of infecting the children. One might point out that when the disease is advanced the patient often puts aside preventive caution, and the family for natural sympathetic reasons follow suit. Hospitalization is thus usually best for such cases. (It is only fair to add that in overcrowding as above mentioned and in the case of boarders the City of Detroit

gives preference for beds, with comparatively early action).

If the state supplies the necessary beds, the City of Detroit particularly can use some of its beds for temporary hospitalization in artificial pneumothorax cases as well as in observation cases. There would thus be a great turn over with beneficial results for the maximum number of people. Advanced surgery, too, could be carried out in these institutions with possible convalescence in the state beds.

The Tuberculosis Society of Detroit and Wayne county is supplying a physician for tuberculosis clinics in the County of Wayne, while the Tuberculosis Society of Michigan is supplying physicians, some unpaid, for clinics throughout the state. In Wayne county health nurses are employed by the cities or townships in the areas having these clinics, for the following up and at times for home treatment. The Board of Health, City of Detroit, supplies physicians and nurses and has two large institutions, Wm. H. Maybury Sanatorium and Herman Kiefer Hospital. Tuberculosis is treated by very up-to-date methods in this city, including surgical procedure as well as home treatment in suitable cases. There is, however, lacking a large number of beds, completely handicapping and often nullifying useful procedure in other ways.

RECOMMENDATIONS

(1) The state should supply, as soon as possible, sufficient beds to make up the bed capacity to one for every death. This is a particularly suitable plan in Michigan because of the scattered population, nearly one-third of all the inhabitants being concentrated in Detroit and Wayne county. The high grade medical and surgical standards required for up-to-date successful tuberculosis work cannot be procured in small institutions.

(2) Howell should be continued and improved, a new institution at Ann Arbor built, and still another sanatorium—one of these to include 150 beds for children and having arrangements for heliotherapy, electrotherapy, etc. *All this to be done at once.* There is a present shortage of 700 beds, there being 2,200 private and municipal beds with an annual death rate in Michigan of 2,900.

(3) The county (or city) to supply tuberculosis clinics for treatment of ambulatory cases and for diagnostic purposes.

(4) The county (or city or township) to pay for local hospitalization for patients

* Homer Folks, "Reducing Tuberculosis Death Rate Saves United States \$550,000,000 a Year Now."—S.C.A.A. News, New York, November, 1926.

unsuitable or too far advanced to be sent to a sanatorium.

(5) The county (or city or township) to supply physicians and nurses care for home treatment cases. The best form of treatment for any given patient to be decided by the medical officer of health or local tuberculosis officer.

(6) Patients diagnosed as tuberculous having no symptoms, local or constitutional and able to do their usual work for a period of five years, without reaction, should be called cured and de-registered. This would greatly improve the social, personal and economic position of patients in whom the diagnosis of tuberculosis unnecessarily hangs over often throughout life. It also makes it possible to correct ill effects following incorrect diagnoses made hastily, particularly in children. (In case of a later breakdown, the patient is re-registered as tuberculous).

(7) Some of the wealthy inhabitants of the state could leave no better monument in their memory than by building and endowing a sanatorium for tuberculosis. This has already been done in many large cities of our country and aids immeasurably in solving the tuberculosis problem. Such an institution could be an isolated unit or affiliated with one of the larger general hospitals and built in the country.

(8) From discussions on the subjects of beds for the tuberculous the writer is satisfied that automobilists or the users of the roads, business men and farmers who benefit from better transportation facilities and automobile manufacturers all are willing that the next state road built shall be one from Lansing, branching to tuberculosis sanatoria. As to the working man generally who will benefit more directly from hospital accommodation, approval is automatically assured.

OCULAR EQUILIBRIUM AND HEAD PAIN*

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The association of what we now know as asthenopia and head pain was first described in 1776. A definite relationship was not suspected until Donders in 1864

opened the way for later observers to connect abnormalities of ocular equilibrium with the strain induced by the effort to maintain binocular single vision.

American ophthalmologists have been foremost in recognizing the reflex manifestations of eye strain which often closely simulate the curious symptomatology of some organic diseases.

So delicate an organ as the eye and so intricate a system as the laws which govern its motility should command serious consideration of the problems presented by defects in the one and of the other. It is the present purpose to review the fundamentals of muscular imbalance in their relation to pain in the head.

THE ESSENTIALS OF ROTATIONS

The posture of the eyeballs is adjusted by 12 extra-ocular muscles. Ocular movements are executed about the centers of rotation, which for practical purposes are found at the intersections of the three principal axes of each globe.

There are three planes of rotation: The sagittal, the frontal or equatorial, and the horizontal. The sagittal plane also defines the vertical meridian of the cornea. All rotations are calculated as having started from the primary position in which the visual lines are parallel, as they are in all normal conjugate movements.

Listing's Law substantially states that when an eye is turned from the primary position to a secondary position it is rotated about an axis that is at once perpendicular to both the first and second positions of the visual line or anteroposterior axis. Listing's plane is the equatorial plane. Listing's axes are all contained in this plane; they are vertical, horizontal and oblique. For a given rotation the axis remains constant throughout the movement.

Lateral rotations take place about the vertical axis; elevation and depression take place about the transverse axis. In all diagonal rotations up or down and to the right or left the axes are oblique. Diagonal movements necessitate an additional rotation, or torsion about the anteroposterior axis. With the exception of torsion all rotations are performed about one or another axis in the equatorial plane agreeably to Listing's law.

THE ESSENTIALS OF MUSCLE CAPACITY

A muscle can exert its maximum effect when its "axis of traction" approximates the plane that passes through the visual

* Presented before the Section on Ophthalmology and Otolaryngology of the Michigan State Medical Society at its 106th, Sixty-first Annual Meeting, Lansing, September 14, 1926.

axis and the center of rotation. Its field of action is in that direction toward which it can rotate the cornea the greatest distance.

All of the twelve extrinsic muscles participate in every conjugate rotation. The right lateral rectus assisted by the right obliques, and the left medial rectus assisted by the left superior and inferior recti rotate the cornea to the right. The superior recti and the inferior obliques elevate the corneae, while the superior obliques and the inferior recti depress them; in each case the lateral and medial recti steady the movement. The elevators and depressors each modify the action of the other.

The lateral and medial recti rotate Listing's plane on its vertical axis, and the elevators and depressors rotate it on its transverse axis.

When the cornea has been rotated temporally the axis of traction of the superior rectus corresponds to the sagittal plane of the globe; that muscle can then exert its maximum power for elevation. In this position the inferior oblique, the other member of the elevating pair, is so placed that its axis of traction corresponds to no rotational plane. In contracting it rolls the eyeball outward on its anteroposterior axis. This rolling or wheel-motion is called torsion. In this rotation the visual axis is directed up-and-out.

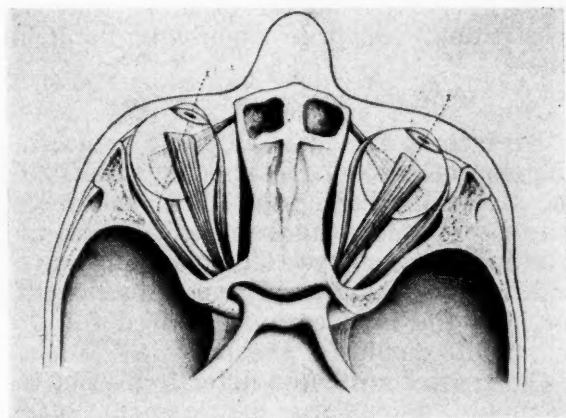


Fig. 1. Looking to right; ready to look up or down to right.

When the cornea is rotated nasally the axis of traction of the inferior oblique corresponds to the sagittal plane of the globe; that muscle can then exert its maximum power for elevation. In this position the axis of traction of the superior rectus corresponds to no rotational plane, so in contracting it rolls the eyeball inward. The visual axis is directed up-and-in.

The visual axis is directed down-and-out

by the lateral and inferior recti, with intorsion by the superior oblique. It is directed down-and-in by the medial rectus and the superior oblique, with extorsion by the inferior rectus.

Diagonal rotations are not executed by three distinct motions as implied; each one is effected about a definite oblique axis agreeably to Listing's law by the combined action of three muscles, no one of which can individually turn the eyeball about that axis. This provision means that the visual axes can be directed unerringly toward an object with the least expense of movement, time and energy. If any of the three muscles fail to function the visual lines will no longer be parallel.

THE ESSENTIALS OF INNERVATION

The complexities of binocular movements are exceeded only by those of the complicated nervous mechanism that regulates the movements.

The lateral rectus is supplied by the abducens nerve, the superior oblique by the trochlear, and the remaining muscles by the oculomotor. The basal nuclei of these nerves lie in paired series alongside the raphe beneath the floors of the cerebral aqueduct and the fourth ventricle. The oculomotor nucleus also supplies fibers which go by way of the ciliary ganglion to contract the pupil and perform accommodation. This relationship has significance in cases of ocular imbalance.

Cortical innervation for binocular movements comes from the frontal and occipital lobes principally. The frontal motor center for voluntary conjugate rotations has been located near the center for head movements. Its fibers pass down through the internal capsule, enter the pons and become related to pontine nuclei and to the abducens nucleus.

The nucleus of the sixth nerve includes a pontine center or it is intimately associated with one. Fibers from this nucleus are incorporated in the medial longitudinal bundle and establish connections with the nuclei of the third and fourth nerves. The eye makes few movements in which one or the other of the lateral recti is not dominant. Fibers likely pass from the pontine nuclei to the cerebellum, from the cerebellum to the colliculi, and from the colliculi to the nuclei of motor nerves.

The cerebellum is practically a nucleus for establishing muscular equilibrium; by its connections with the colliculi it supervises muscular co-ordination. The cerebellum is the organ of synergy and eu-

metria; it ratios the quota of impulse that goes to each muscle in any rotation. Co-ordinated muscular performance is necessary to comfortable binocular vision.

The occipital visuomotor center is located near the visual area. When visual stimuli reach this center a motor reaction occurs in one of two ways: Impulses go to the frontal area, or they go directly to the basal nuclei for involuntary or automatic conjugate rotations. This center presides over visual fixation and projection.

Fixation is an acquired faculty. Rays of light from an object enter the eye and meet the retina; the eye purposefully rotates until an image of the object is formed on the fovea. Both eyes participate in the search until each has secured foveal vision. By repetition bifoveal fixation becomes a firmly established habit. Since the visual lines extend from the fovea of each eye to the object under observation, parallelism must be maintained between them.

Binocular single vision signifies that both eyes fix or focus an object concurrently. It may amount to simultaneous macular perception in which the images are overlapped or superimposed; it is perfected by fusion of the images which affords stereoscopic vision.

The fusion area of the retina extends from the fovea 3 degrees up and 3 degrees down, 8 degrees nasally and 25 degrees temporally. Stimulation of this region excites powerful motor impulses for precise bifoveal fixation which is indispensable for faultless fusion. Stimulation outside this region probably sends impulses to the frontal area.

THE ESSENTIALS OF PROJECTION

By experience the individual habitually projects an image from each distinct point in the retina into a definite position in the visual fields. Let the eyes be fixed on an object straight ahead (Fig. 2,a;) a second object slightly to the right of the object of fixation will form an image at a certain point on the nasal side of the right retina and at a certain point on the temporal side of the left retina. When the second object is seen single (b) its image has fallen upon corresponding points of the two retinae; when it is seen double (c) its image has fallen upon disparate points.

Binocular diplopia means that both a true and a false image of an object have been projected into the field of vision, because an object that forms retinal images at disparate points is projected double. Double projection indicates that the visual

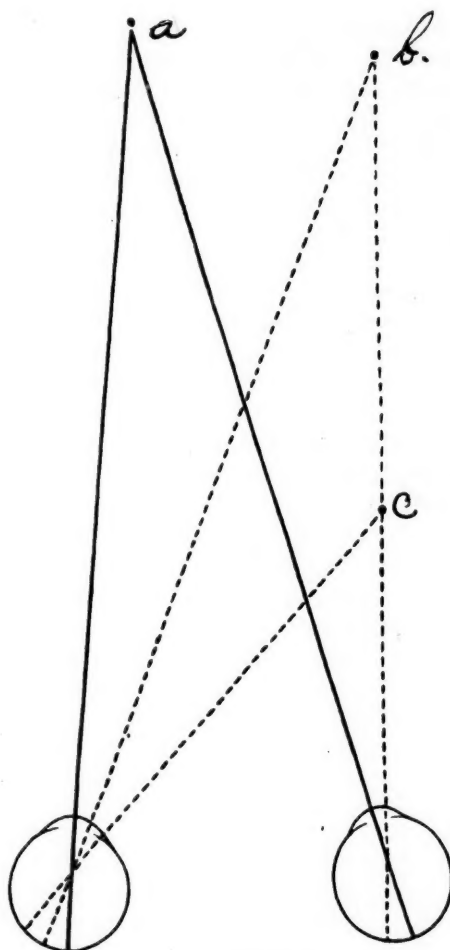


FIGURE 2

lines are not parallel; that is, one line of sight deviates from the other so that the two cannot converge upon any point in space.

ESSENTIAL DISTURBING FACTORS

Deviations are caused by one or a combination of several factors. Asymmetry in the size, shape and position of the orbits may be expected in cases of facial and cranial asymmetry. The origin, course and insertion of the eye muscles must differ, and the innervation required for the two orbits would be unequal.

Congenital muscular defects are not infrequent; anomalous development often means an attenuated and weak muscle. The point of origin is of less consequence than the point and direction of insertion into the sclera. For instance, when the medial rectus is inserted below the horizontal plane of the globe, every contraction of the muscle will be attended by some degree of torsion; this will give rise to subjective disturbances.

Innervation may be disordered not only between the muscles of the two eyes, but also between opposing muscles of one eye.

Convergence excess or insufficiency illustrates the binocular type, while a single muscle paralysis illustrates the monocular variety. Either kind will cause deviations; inequality of innervation is a source of distress.

The size, shape and curvature of the eyeballs may account for deviations. The short or hyperopic eye requires accommodative innervation in excess, and since this is associated with intrinsic motor impulses more nerve energy will flow into the medial than the lateral rectus as a rule. The obliques lose some abduction power since they are inserted further forward than usual on the globe. The long or myopic eye, on the contrary, is often associated with divergence because there is no accommodative stimulus to convergence, and because the obliques are inserted so far back on the globe that they are in a state of constant tension and therefore tend to abduct the cornea.

The corneal curvature may be responsible for ametropia and an associated muscular imbalance. Astigmatism requires uneven innervation in the ciliary muscle, and this inequality sometimes produces deviations. Anisometropia requires different degrees of innervation for the two eyes, and this is a source of annoyance.

Diseases and defects of the retina of one eye may so distort the images of that eye as to cause a muscular imbalance.

A healthy individual may be able to comfortably overcome a considerable degree of ametropia in one or both eyes until the age of presbyopia. The lens changes that have occurred by that time require a greater intensity of ciliary muscle innervation than had been previously needed; muscular imbalance follows very frequently. The person who delays the use of reading glasses, or who neglects his refraction is subject to visual discomfort.

DISCUSSION

A deviation is due to an overacting or to an underacting muscle. In each of the instances cited the anomalies and defects must be corrected by muscular effort if binocular single vision is to be preserved. Unless correction is effected diplopia results; that is, each retina projects the image that belongs to it into the binocular field of vision in harmony with experiences gained prior to the onset of disability.

A demonstrable deviation is designated strabismus, squint or heterotropia. A latent deviation is called heterophoria. Diplopia due to squint rarely causes pain,

but does produce disorders of orientation which disappear at once by occluding one eye. Latent diplopia is overcome by excess nervous energy supplied to one or more muscles. In time this may produce pain which is usually relieved only after prolonged occlusion of an eye.

Pain may be ascribed to one or more of three factors. Excess innervation tends to hold a muscle in a state of contraction over protracted periods of time without rest until fatigue ensues. Continued use of the eyes causes pain. When the nerve centers are exhausted the whole mechanism becomes disordered, and pain results from continued efforts to use the eyes. The strain of trying to overcome deviations sometimes produces intra-ocular and conjunctival hyperemia. This congestion is a source of pain.

Occupation is an important factor. A robust man who spends his waking hours in the great outdoors and reads little, especially by poor artificial light, is not in the same class with a weak, nervous and worried woman whose personal and family necessities require that she use her eyes intensely in near work such as sewing or stenography over long hours under poor working conditions. Incidentally, in refraction work among these latter patients dependable cycloplegia is introduced by scopolamin and homatropin more positively than by homatropin alone.

The location of the pain is sometimes significant. A pure refractive error usually causes pain in the brow, especially if but one eye is affected. When a refractive error is associated with or is responsible for muscular imbalance the pain is generally occipital. This irritation of retinal and choroidal congestion causes pain in the eyeballs, and it is often reflected into the occiput and neck. Vertex pains are only occasionally due to eye strain. Eye pain may appear over the insertion of a muscle.

Muscular and refractive defects may cause pain or they may excite conjunctival hyperemia, blepharitis or recurring hordeoli; they seldom produce both sets of symptoms.

CONCLUSIONS

1. There is little likelihood of pain when the visual and muscular error cannot be overcome by muscular effort, or while one image is suppressed.

2. Ocular equilibrium that is forced in the interest of binocular single vision will be accompanied by head pain in the majority of instances.

3. Pain is less dependent on the amount

of deviation than it is on the intensity of the nervous impulse that is required to correct it.

4. It is probable that the susceptibility of the patient through general weakness or exhaustion is more of a determining factor than any other in cases of disturbed ocular equilibrium and head pain.

AN EXTREME CASE OF OSTEOMALACIA

RITA B. TOWER, M. D.

BRINDABAN, INDIA

CASE REPORT

As osteomalacia is not discussed to any extent in the textbooks, the following case is submitted for publication by the doctor in charge of the Sarah E. Creighton Memorial Hospital at Brindaban, India.

It was on November 13, 1925, that we were called into Muttra, a city seven miles away, to see a patient who they said had been in labor since 2 o'clock that morning, when I found a very severe case of osteomalacia complicating an eight months' pregnancy.

Patient's name, Lakshmi; a Hindu female; age, 35; caste, Agarwali Baniya.

HISTORY

When she was a girl of nine years of age she had an attack of fever with pain throughout her body. She was married at the age of eleven and for one year afterwards she was quite well. At



Lakshmi, Hindu woman, showing bony deformities of legs.

the age of twelve she began having attacks of fever, which may have been malaria. Menstruation began at fifteen, and with each period she suffered severe pain in the back and lower abdomen, associated with fever. She had had three full term pregnancies at an interval of three years each; each pregnancy was marked by great suffering, fever, pain and general weakness, and the intervals by comparatively good health. All these children are living and were born without any difficulty. At the age of twenty-seven she had a four months' miscarriage, and within a year after this she noticed that the bones of her body were becoming crooked and she suffered intense pain. She had only slight relief by massage, enabling her to stand up a little; but by the end of a year, back, hips and legs were so bent that she could no longer use her feet. For three years she remained in this condition and then became pregnant a fifth time. Such was her condition that she couldn't even sit up without assistance; she had fever and the pain was very great. At the beginning of the ninth month she began having labor pains, and as usual native midwives were called, but they could do nothing for her. It was then that the family called on us for help.

The examination revealed a very enemic little woman weighing not more than fifty pounds. There were bends and twists in nearly every bone in the body. The mandible was crooked. In the upper right humerus the bone had bent to about a 135 degree angle. In the left humerus at the juncture of the middle and the lower thirds the angle was even greater. The sacrum had such an antero-posterior curvature that it was impossible for the patient to lie on her back without great discomfort. The pelvis was markedly compressed laterally. Both femurs were bent. The tibia and fibula of both legs were so bent, the thighs so contracted on the abdomen that the toes with difficulty could touch the bed. Her teeth were in very bad condition, and there was marked pyorrhea. The lungs throughout contained numerous fine and coarse rales with several areas of consolidation, probably tubercular.

Heart was slightly enlarged; a systolic murmur was present, the rate was 130-140, irregular. Temperature on admission, 100. Respiration, 34.

Pelvic measurements were as follows: Interspino, 15 1/4 cm.; intertrochanteric, 19 cm.; inter-tuberous, 3 cm.; intercrestal, 17 cm.; external conjugate, 17 cm.

A Caesarean section was decided upon in spite of the fact that the patient's condition was not especially favorable for any operative procedure.

Pre-operative treatment consisted only of an S.S. enema and a hypodermic of one-fourth grain morphine.

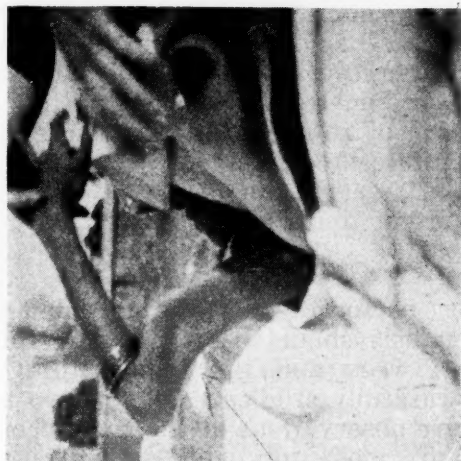
Chloroform anesthesia was given. Due to the cardiac and general condition of the patient, as soon as she was under the anesthetic and before the abdominal incision was made, a hypodermic of 1/40 grain strychnine combined with 1 grain caffeine sodium benzoate was given.

CAESAREAN UNDER DIFFICULTIES

Due to the contracture of the thighs upon the abdomen, which did not give way even under deep anesthesia, the operation had to be performed under unusual difficulties. A high abdominal incision had to be made. In making the incision through the uterine wall the placenta was encountered. The baby was extracted and given to a nurse to be resuscitated. A hypodermic

of 1 c.c. ergot and 1 c.c. pituitrin were given at this stage. After the placenta and membranes were removed and hemorrhage checked, two rows of buried chromic catgut sutures were taken in the uterine wall and a row of catgut in the peritoneal coat. A cigarette drain was inserted and the abdominal wall closed in the usual way. To counteract shock 500 c.c. saline solution was given beneath the breasts before the patient left the operating room.

The patient was returned to the ward in a moderate degree of shock. The pulse, which had remained around 130 during the operation, was now 150 and at times irregular; 1 c.c. camphor in oil was given and the pulse improved. The



Lakshmi, Hindu woman, showing deformity in lower third of humerus left arm.

bleeding per vagina was rather excessive so 1 c.c. of ergot and 1 c.c. of pituitrin were given hypodermically. A shock enema of strong tea was also given. The patient's condition gradually improved. At 9 p. m. she became restless and a hypodermic of $\frac{1}{4}$ grain morphine was given. At midnight she had a temperature of 101.6 by mouth, which was down to normal the next morning.

During her convalescence she ran a typical T. B. the whole three weeks she was in the hospital. The drain was removed on the third day. The drainage was normal, and the rest of the wound healed by first intention. The sutures were removed on the seventh day.

She was given cod liver oil with phosphorus dram 1 t. i. d. and acetyl salicylic acid gr. 10 t. i. d., also massage and liniment to control the pain, which was especially marked in the contracted muscles. At the end of three weeks she and her baby were taken home by the family.

No doubt, if she could have had proper treatment in the beginning, splints applied to prevent the muscle pull from bending the bone shafts, and massage to prevent muscular atrophy, she would have been spared a great deal of suffering. A fact that seemed very interesting was that there was not a general softening of the whole bone, but there were foci of softening. This was demonstrated by the deformity in the right humerus, being at the juncture of the middle and upper third, while in the left it was at the juncture of the middle and lower third. So sharp was the angle of deformity, as though a fracture had occurred. There was a thickening of bone at the areas of bending, showing evidence of ostitis and periostitis. Such a nodule was found

at the middle of the ulna on the left, but the radius being a good splint, there had been no deformity.

So little is known about the etiology and treatment of this disease that there is not much that can be said in discussion. In India it seems to be very common amongst the caste of people to which this woman belonged. It is considered that the unsanitary conditions, improper food and the lack of fresh air, sunshine and exercise in their lives have much to do with the cause of this disease.

Dr. Rita Tower, who has contributed the interesting case of Osteomalacia, is a daughter of Mr. and Mrs. D. R. Tower of Holly, Michigan. She graduated from the University of Michigan Medical School with the class of 1921. She served an internship for one year at the Women's and Children's Hospital, Boston. She is supported by the Women's Foreign Missionary Society of the M. E. Church.

THE EARLY DIAGNOSIS OF PULMONARY TUBERCULOSIS

GERALD B. WEBB, M. D.

COLORADO SPRINGS, COLORADO

The chain of thought which will lead a physician to the successful early diagnosis of pulmonary tuberculosis must resemble the firmly fixed chain by which Aristaeus held Porteus when he changed in rapid succession into fire, flood, and a horrible wild beast. The links of the chain are composed of the constant thought "tuberculosis" no matter what protean sign or symptom the patient presents. In the case of practically every disease the physician must consider the possibility of tuberculosis. He should expect to be able to make an exact diagnosis of tuberculosis in at least two per cent of his clientele. Easy exhaustion, digestive disturbances, headaches, nervous irritability, insomnia, fever which at times may resemble typhoid, tachycardia, malaise, anemia, weight loss, pain in the chest, local and general sweats, frequent throat clearing, fistulae, blood spitting, susceptibility to colds, dry or productive cough, disorders of menstruation, are some of the symptoms and signs which call for most careful investigation for pulmonary disease. The most important part of the study of each patient is the careful taking of the history. The next most important step is the close scrutiny of the patient by the trained eye of the clinician. It is a stigma on the medical profession that lay people who have been closely associated with the tuberculous, as in a health resort, can recognize a consumptive type long before many physicians can make an exact diagnosis. The toxin of the disease creates objective and subjective signs such as wasting of the neck muscles, flushed cheeks, glistening eyes, a delicate appear-

ance, easy fatigue, temperamental disturbance and even a weakened voice; any of which should arouse suspicions of tuberculosis. On the other hand, advanced tuberculosis may be present in some people with absence of such symptoms.

PHYSICAL EXAMINATION

Inspection will reveal a lagging of one or both lung apices.

Palpation enables a confirmation of possible lagging, determines the excursion of the chest wall, detects the increased or decreased vocal resonance, the position of the heart apex beat, which may be changed by a diseased lung, and the position of the trachea, whether misplaced to right or left. Percussion is valuable in detecting impaired resonance at the lung apex, and percussion with the tips of all five fingers, as advocated by Auenbrugger, who introduced the art, is very valuable over the bases of the lungs to bring out basal lesions, thickened pleura or pleurisy.

Auscultation is probably the most important means of investigation. Changes of the breath sounds such as prolonged, high-pitched expiration, quiet breathing and rales are to be noted. It is best to begin auscultation by placing the stethoscope in the lower axilla, and moving the bell upward after each expiration. To determine the presence of rales the patient should be instructed to breathe in through the mouth, then to breathe out and to give a slight cough with the last part of the outgoing breath. Rales are apt to be heard in showers, and usually occur after the cough at the time the breath is inspired. They should especially be sought at the apices posteriorly and above and below the clavicles. It must be remembered that occasionally the residual fractions of the broncho-pneumonias of influenza may for a while give rise to a shower of rales similar to tubercle.

X-RAY EXAMINATION

The X-ray films should always be inspected by the clinician. Special technic is needed to produce proper X-ray pictures of the chest and it is a serious matter that so many poor films are taken. The X-ray may indicate that tuberculous lesions found on physical examination are actually more extensive or at times less extensive. Areas of tubercle deposits are frequently found in healthy people at the roots of the lungs. The films should be carefully inspected for tubercle lesions in the parenchyma of the lungs.

Fluoroscopic study is of value in noting the lung aeration and the excursion of the diaphragm. Early diagnosis rarely can be made by the fluoroscope and, generally speaking, film study is the more essential.

LABORATORY EXAMINATIONS

Specimens of sputa should be taken and sent to a reliable laboratory. At times many specimens are necessary before a positive diagnosis can be made. Patients often relate that, suspecting their own conditions in spite of negative findings by their physicians, they have of their own accord sent sputa to public laboratories and the correct diagnoses have been made. There are no reliable blood tests for the detection of tuberculosis. An increase in the white cell count and a decrease, or at times increase, in the total lymphocyte element are at times suggested.

TEMPERATURE STUDY

Any person suspected of pulmonary tuberculosis should be put to bed for at least a week and the temperature and pulse carefully studied. One or two temperature observations at the time of office visits are most unreliable. An afternoon or evening temperature of 99 or over needs explanation. The resting pulse should be normal in a heavy person. In patients with tuberculosis it is almost always accelerated.

TUBERCULIN TESTS

The skin tuberculin tests have no value in the diagnosis of adult tuberculosis. The subcutaneous test can be used by experts only.

DIFFERENTIAL DIAGNOSIS

Almost any disease from hookworm to aneurysm may suggest tuberculosis. Repeated negative sputum findings should always lead to a careful search for bronchitis or bronchiectasis associated with infection of the nasal accessory sinuses. In such cases the rule should be to order X-ray pictures of the sinuses. Lung abscess, and rare chest diseases such as aspergillosis, streptothricosis and even syphilis are conditions the tuberculosis specialists are constantly watching for. Thyrotoxicosis is a condition which may resemble tuberculosis especially in weight loss and in fever and pulse variations. A definite increase found in the metabolic rate determines the diagnosis in favor of hyperthyroidism. Possibly the greatest difficulty in differential diagnosis is found among patients in whom occult tuberculosis is suspected. They may have no cough

and present no physical signs, and parenchymatous lesions of the lungs are not detected by the X-ray. In these people, most frequently women, a daily elevation of temperature is noted and also an accelerated pulse. A careful investigation must be made in regard to the thyroid gland, tonsils, teeth, gall bladder and pelvic organs before a diagnosis of occult tuberculosis is made. Tonsils should not be removed, especially in adults, unless a very careful study of the chest has been made.

The early diagnosis of pulmonary tuberculosis would be more often made if physicians would keep uppermost in their minds the frequency of the disease and their responsibility to be constantly alert to the possibility of tuberculosis in so many maladies for which they are consulted.

NOTE—This article has been submitted for publication in The Journal of the Michigan State Medical Society by the Medical Adviser of the Michigan Tuberculosis Association.

CASE REPORT

E. B. ANDERSEN, M. D.,
GRAND RAPIDS, MICHIGAN

While congenital imperforate hymen is described in considerable detail with other vaginal atresias in every text book in gynecology, the condition is seldom found in one's practice. As a scientific curiosity such cases are of interest and the following report is submitted.

May 31st, 1927 the case of Miss V. C., age 15, the oldest of several children, was referred to me by another physician. The patient had been thought to be in labor on account of the severe lower abdominal pain and some abdominal enlargement. The history of the case was as follows: Patient had had a sudden onset of severe abdominal pain about one hour previous to my seeing her. Her only other complaint was inability to void urine. On closer questioning it was found that the girl had never menstruated although she had had menstrual symptoms at varying intervals for the past two years. Some of the menstrual symptoms approached the present symptoms in severity. The patient had previously been taken to various physicians for advice regarding the amenorrhea. On these occasions emmenagogues had been prescribed. Her personal and family history was entirely negative. On examination, patient was a woman in the adolescent period, was up and about, but apparently in agony simulating labor. The breasts were apparently normal for a girl of her type, the abdomen was distended to the umbilicus with dullness to this level but no rigidity. On inspection of the vulva the bulging tense hyperemic membrane was occluding the vaginal orifice. It was perfectly evident that the case was one of vaginal obstruction and that conception or pregnancy was out of the question. The patient was otherwise physically normal.

Surgical removal of the obstructing membrane released a quart or more of dark unclotted blood which had collected and enormously distended the vagina. The membrane was at least one-

eighth inch thick and had to be excised completely in order to prevent a future stenosis of the vaginal orifice. The patient's symptoms disappeared immediately. She has menstruated regularly since the operation. Examination revealed normal pelvic organs. This case is, therefore, one of congenital imperforate hymen with hematocolpos.

CHILD'S GROWTH COMPARED WITH CALF AND RABBIT

Mothers who are appalled at the bean-stalk speed with which children seem to grow out of their clothes can be thankful that little boys do not sprout up as fast as rabbits, cows, and guinea pigs. Charts comparing the growth of children with that of farmyard animals have been worked out by Dr. Samuel Brody, of the Missouri Agricultural Experiment Station. Reporting his results in science, Dr. Brody shows that a child between four and fourteen years of age grows at the rate of only 10 per cent a year, whereas young farm animals grow at the rate of 1,000 per cent in a year. Reduced to days, this means that in less than four days the young animal gains as much as the child gains in a year. The juvenile period in man spreads over an enormously long period of time compared with that in domestic animals, Dr. Brody states. Children who have not grown fast between four and twelve years often shoot up rapidly between twelve and fifteen. This appears to be in the nature of compensatory growth for an earlier deficiency, Dr. Brody concludes. Children who have grown more rapidly in earlier childhood do not seem to have this acceleration in their teens.—Science Service.

HUNDRED SKELETONS TO REVEAL CHARACTER OF MAYA RACE

A hundred skeletons and 2,500 records of the size and other physical characteristics of living modern Maya Indians of Yucatan brought back to Peabody Museum by Dr. and Mrs. G. D. Williams may give an insight into the kind of people who erected great cities and developed a culture in America long before the coming of Columbus. During an anthropometric survey of the Mexican state of Yucatan, Dr. Williams obtained information on 2,000 adult and 500 children of the descendants of the ancient Maya and also secured for scientific study the skeletons of a hundred present day Mayas. Metabolic tests were included in the studies. The expedition that was in the field for eight months was under the auspices of the Bureau of International Research of Harvard University and Radcliffe College.—Science Service.

THE POWER OF ROUTINE

A physician in town specializes in spinal cases. To save time he has his nurses strip everyone to the waist before he sees them.

A young woman insisted upon seeing the doctor, so the nurse told her that she would have to prepare for the consultation. When her turn came, the doctor faced a frightened young woman undraped to the hips.

"Well, what's your complaint?" he asked.

"I'm afraid, doctor, that it's a mistake on your nurse's part," she panted. "I merely came to see if you would renew your subscription to the New Yorker."—Illinois State Medical Journal.

MICHIGAN'S DEPARTMENT OF HEALTH

GUY L. KIEFER, M. D., *Commissioner*

PROVISIONAL RATES FOR 1927

The following rates are submitted as provisional rates for 1927 and are subject to correction by delayed reports, but it is improbable that the rates themselves will be affected although there will be a slight increase probably in the number of births and deaths.

In common with other sections of the country, Michigan experienced a slight decrease in the birth rate. There were reported in 1927, a total of 98,891 births as compared to 98,289 in 1926, an increase of 602 births. The rate, however, for 1926 is equivalent to 23.0 per 1,000 population; whereas, with the estimated increased population for 1927 the rate is 22.5 per 1,000. A falling birth rate is always unfortunate for any community but this condition seems to be common throughout the United States.

A much more satisfactory showing is found in the death rate. In 1927 there had been reported 50,434 deaths as compared to 54,080 in 1926. The death rate for 1926 was 12.7 and for 1927 it was 11.5 per 1,000 population. This is a decrease of 1.2 per 1,000—equivalent to approximately nine per cent.

Infant mortality—In 1926 there were 7,630 deaths of children under one year of age. This was reduced in 1927 to 6,754, the infant mortality rate falling from 77.6 per 1,000 living births in 1926 to 68.3 in 1927. It is certainly a matter of congratulation that there are almost 1,000 more babies living in Michigan today than would have been living if the rate for 1926 had prevailed.

In the matter of maternal mortality we are not so fortunate. It seems exceedingly difficult to make very much impression on this rate. The literature of medicine is constantly referring to improved methods of obstetrical practice but still we continue to lose about the same percentage of women in childbirth. In 1927 there were 661 deaths from this cause as compared with 631 in 1926, the rate rising from 6.4 per 1,000 births in 1926 to 6.7 in 1927. In figuring this rate on the basis of a thousand births we are able to give a rate that represents the number of deaths per 1,000 exposures to death from this cause and it

is to be regretted that we are not able to reduce this rate to a point where it is comparable with some of the European cities.

We are, of course, unable to tell at this time much about the causes of death but some interesting things might be commented upon. For instance, typhoid fever, which is probably more amenable to sanitary control than any other one disease, has a rate for 1927 of 2.1 as compared with 2.8 per 100,000 population in 1926.

Scarlet fever shows a satisfactory decrease in the death rate although the case incidence of the disease continues very high, the rate for 1927 being 3.8 per 100,000 population as compared with 5.5 in 1926.

Diphtheria seems to be responding to the intensive work that has been carried on in this department for several years, the rate being 11.7 per 100,000 as compared with 15.8 in 1926, but is materially higher than in 1925, when the rate was 8.5.

Tuberculosis again makes a very satisfactory showing, the rate for tuberculosis (all forms) being 66.9 per 100,000 population as compared with 71.2 in 1926.

Cancer, however, in spite of the fact that we are told that it is rapidly increasing, showed only a very slight increase from 93.2 in 1926 to 94.0 in 1927.

Cerebral hemorrhage showed a slight decrease from 100.5 in 1926 to 93.2 in 1927. Heart disease remained almost stationary, the rate for 1926 being 169.9 and for 1927 it was 169.0. A very satisfactory decrease is shown in lobar pneumonia which was reduced from 60.7 in 1926 to 46.9 in 1927.

Nephritis (acute and chronic), which showed a rate of 79.9 in 1926 shows a rate of 70.2 in 1927. Diarrhea and enteritis in children under two years of age fell from a rate of 25.5 per 100,000 in 1926 to 21.8 in 1927.

In deaths in early infancy which includes congenital malformations, premature birth, injury at birth, and other conditions peculiar to early infancy the rate fell from 91.2 in 1926 to 85.3 in 1927, certainly a very satisfactory showing and one factor which accounts for the lowered infant mortality rate discussed above.

Automobile accidents again showed a

considerable increase. There were 1,204 deaths due to automobile accidents alone; 81 as a result of collision between an automobile and railroad train and 50 as a result of collision between automobile and street car. That makes a total of 1,335 deaths in which the automobile was involved, certainly an exceedingly unfortunate showing. This is equivalent to a rate of 30.3 per 100,000 population as compared with 25.4 in 1926.

It should be remembered as stated at the beginning of this story that these figures are provisional and subject to correction on the receipt of delayed returns, but it is important that the changes made will be significant and as a whole the record certainly points to a very exceptional year in 1927.—W. J. V. D.

THE HEALTH OFFICER'S MANUAL

(Continued)

DISINFECTION

(A) Definition and Explanations:—

Disinfection defined—For the purpose of these rules and regulations, the term "Disinfection" shall mean the exercise of such specific measures for each disease and each infectious discharge and each infected article as will render them innocuous and harmless.

1. Quarantine shall not be terminated until all the directions for concurrent disinfection shall have been carried out in compliance with these rules and regulations and to the satisfaction of the local health officer.

2. Concurrent disinfection shall mean the immediate disinfection of the infectious discharges and the fomites at the earliest possible moment after they have left the patient.

Concurrent disinfection shall be carried on at all times during the illness of the patient and as long thereafter as required by the local health officer.

(B) Methods of Disinfection:—

a. How to Disinfect During Quarantine:

1. Normal and abnormal discharges from the eyes, ears, nose, throat, skin lesions and glands may be disinfected by being collected on bits of cotton, paper or cloth and burned at once.

2. The hair and skin of the patient or attendants may be disinfected by washing with soap and water.

3. Bed clothes, pillow slips, sheets, night gowns, towels, washcloths or any other cloth or clothing of any kind may be dis-

infected by being boiled with soap and water for fifteen minutes before leaving the premises of the quarantined area, if the case is quarantinable.

A washboiler or tub shall be kept in the sick room one third full of cold water. All cloth or clothing used by the patient shall immediately be placed in this cold water.

Once a day, this tube shall be taken to the stove and allowed to boil for fifteen minutes. Clothes so treated may be hung out to dry. Prompt moistening and boiling is much better than immersion in any disinfectant.

4. Dishes, glassware, knives, forks, spoons or any utensils used in feeding the patient shall be promptly disinfected by being washed and boiled.

Dishes used by the patient shall not be used by other members of the family but shall be set aside for the use of the patient only.

5. Food from the sick room shall never be eaten by anyone but shall be collected and boiled or burned at once.

6. Thermometers, rectal tubes, douche nozzles, etc., shall not be removed from the sick room until the termination of the case. They shall be washed clean with soap and water after each use.

7. Water that has been used to bathe the patient shall be boiled fifteen minutes before being discarded unless it is immediately put into a sewer system.

8. Bowel discharges. Disinfection of the bowel discharges, when required in these rules and regulations, shall be carried out by adding five tablespoonsful of freshly opened chlorid of lime to a liquid stool and stirring the mixture until all parts of the stool have been thoroughly mixed with the solution. This mixture should be allowed to stand, protected from flies for thirty minutes before being discharged into a sewer or privy vault.

Solid stool should have one pint of water added and be thoroughly stirred until stool assumes a liquid character and all lumps broken and then treated as described above.

9. Bladder discharges. Disinfection of bladder discharges, when required in these rules and regulations, shall be carried out by stirring three tablespoonsful of freshly opened chloride of lime into each passage and allowing this mixture to stand thirty minutes before being discharged into a sewer or privy vault.

10. Bed pans and urinals shall be thoroughly cleaned each time after use and

rinsed out and left containing a small amount of dry chlorid of lime.

b. How to Disinfect After Quarantine:

Terminal disinfection shall be done at the end of the quarantine period and shall mean the exercise of those processes which will render the person, the personal clothing and the immediate physical environment of the patient free from possibility of conveying infectious agents.

1. Terminal disinfection of the person, rooms or dwelling shall be carried out by the use of soap and water, fresh air and sunlight, as is found necessary for the individual case.

2. The use of any sort of fumigation or chemical is not required and is only advised in special circumstances.

3. Terminal disinfection of all clothes, bed clothes, thermometers, rectal tubes, dishes, glassware, etc., which have been exposed to the patient while he is giving off infectious material shall be carried out as described for concurrent disinfection.

4. Bedsteads, chairs, tables, floors, doors, woodwork, windows, etc., shall be scrubbed with soap and hot water.

5. All bed clothing, pillow slips, sheets, night gowns, towels and any other cloth or clothing of any kind that has been in contact with the patient shall be disinfected as provided in Section IV, B (2).

6. Milk bottles, milk pails or food containers of any sort shall never be allowed to leave the quarters until the termination of the case or of the quarantine. If milk bottles, milk pails and food containers are brought into the premises or the quarantined areas, they shall be allowed to collect during the whole period of illness or of quarantine and be thoroughly sterilized by being completely immersed in boiling water for 15 minutes, after the case terminates or the quarantine has been lifted.

7. It is recommended that a pitcher or other suitable container be placed outside the door of the premises of the case or of the quarantine and that the milk man pour his milk into it and carry his bottle away immediately. Having touched nothing or exchanged nothing, there will be no contamination and the uncertainty of sterilizing accumulated bottles at the termination of the case or of the quarantine will be entirely avoided.

8. If a case of communicable disease has to be nursed at home, all unnecessary furniture, draping, curtains, rugs, etc. should be removed from the room where the case is to be treated or quarantined, especially all furnishings that cannot be

readily cleaned and disinfected as described in these rules and regulations.

9. As far as possible only such books, papers, magazines and toys should be given the patient as are of little value, and these shall be destroyed by burning when the case is released.

MICHIGAN PUBLIC HEALTH ASSOCIATION

At the Annual Meeting of the Michigan Public Health Association held in Lansing in January in conjunction with the Seventh Annual Public Health Conference, the following new officers were elected:

John Sundwall, M. D., President, (Director, Department of Hygiene and Public Health, University of Michigan, Ann Arbor); Ellis J. Walker, R. N., Vice President, (Western State Teachers College, Kalamazoo); W. J. V. Deacon, M. D., Secretary-Treasurer, (Director, Bureau of Records and Statistics, Michigan Department of Health, Lansing).

Directors:

T. J. Werle, Michigan Tuberculosis Association, Lansing; Grace Ross, R. N., Department of Health, Detroit; R. C. Mahaney, M. D., Owosso; Don M. Griswold, M. D., D. P. H., Michigan Department of Health; Wm. J. Stapleton, M. D., Chairman, Public Health Committee, Wayne County Medical Society, Detroit; Guy L. Kiefer, M. D., D. P. H., Representative to the Governing Council of the American Public Health Association.

ACTIVITIES IN MOUTH HYGIENE

Increased interest is constantly being shown in the subject of mouth hygiene as evidenced by the number of requests for educational material and for the assistance of the Bureau of Mouth Hygiene in starting or aiding programs in this behalf.

The director is spending all the time possible in the field, entirely upon request, and is more than encouraged by the interest and co-operation shown.

The field work consists of a careful examination of one schoolroom with as many adults present as possible, an examination clinic or conference with local dentists, and addresses before local organizations, especially parent-teacher associations.

The examination is proving especially popular as a means of showing the necessity of dental care, as well as giving first hand data as to conditions. The average in second grades (seven year old children) for all localities visited is as follows: 86

per cent need filling or extraction or both, 56 per cent already have cavities in permanent teeth and 55 per cent have definite mouth infection. In many cases the children have not one or two but six and eight abscessed teeth and are decidedly underweight.

In Hillsdale, a school dental outfit has been purchased by the Kiwanis Club at a cost of more than \$500. Local dentists gave their services for a half day a week at first, for the care of indigent cases, until the school board was able to employ a dentist regularly for this purpose.

At a demonstration examination in a country school in Wayne County, one-half of the mothers were on hand at 9 o'clock in the morning to see their children examined. At another school in the same county the schoolroom was packed on a rainy, foggy night, to hear a talk on mouth hygiene.

At Ypsilanti, eleven out of twelve dentists came to an examination and the luncheon which followed it. The superintendent of the Training School was very enthusiastic about the examination as a method of showing prospective teachers the importance of mouth hygiene.

Hamtramck has under way a very comprehensive program, directed by a dental hygienist.

A good indicator of the state-wide interest in this phase of health is the steady demand for the educational leaflets. Since July, the beginning of the state's fiscal year, a total of 153,570 such leaflets have been sent out. Like all department publications, these are sent free of charge, but only upon request.—W. R. D.

JANUARY'S COMMUNICABLE DISEASE RECORD

The communicable disease situation for January was quite satisfactory. Compared with January of 1927, there was a decrease in most of the diseases, a slight increase occurring in the case of whooping cough and a noticeable increase in measles.

It is apparent that measles is again experiencing a periodical rise and in view of this fact it is exceedingly important that it receive special attention. It must always be remembered that measles is exceedingly fatal to young children, and due to the fact that it seems to be most communicable during its prodromal stage great care should be exercised by the parents of young children to avoid the possibility of exposure.

All of the venereal diseases show a con-

siderable increase in the number of cases reported, due probably to the operation of the chauffeur's law which has required the taking of the bloods for examination from many men, with a showing of approximately 5 per cent positive Kahn or Wassermann tests, which resulted in an increase in the number of reports.

PREVALENCE OF DISEASE

January Report (Cases Reported)				
	December 1927	January 1928	January 1927	Av. 5 yrs.
Pneumonia	469	484	661	771
Tuberculosis	426	404	647	429
Typhoid Fever	49	24	26	41
Diphtheria	460	352	499	636
Whooping Cough	444	594	560	631
Scarlet Fever	1,020	1,091	1,438	1,486
Measles	1,212	1,539	523	1,787
Smallpox	144	168	171	280
Meningitis	12	10	10	15
Poliomyelitis	16	7	8	4
Syphilis	924	1,496	1,083	1,026
Gonorrhea	654	855	705	795
Chaneroid	4	12	7	14

CONDENSED MONTHLY REPORT

Lansing Laboratory, Michigan Department of Health.

January, 1928				
	+	—	+—	Total
Throat Swabs for Diphtheria				1065
Diagnosis	32	275		
Release	39	91		
Carrier	11	609		
Virulence	3	5		
Throat Swabs for Hemolytic				
Streptococci				769
Diagnosis	83	66		
Carrier	27	593		
Throat Swabs for Vincent's	29	278		307
Syphilis				8811
Wassermann		1		
Kahn	1230	7526	53	
Darkfield		1		
Examination for Gonococci	174	1319		1493
B. Tuberculosis				328
Sputum	56	272		
Animal Inoculations		17	1	
Typhoid				172
Feces	15	70		
Urine		15		
Blood Culture	1	33		
Widal	5	33		
B. Abortus	3	37		40
Dysentery				57
Intestinal Parasites				27
Transudates and Exudates				135
Blood Examinations (not classified)				144
Urine Examinations (not classified)				330
Water and Sewage Examinations				516
Milk Examinations				63
Toxicological Examinations				13
Autogenous Vaccine				4
Supplementary Examinations				157
Unclassified Examinations				834
Total for the Month				15283
Cumulative Total (fiscal year)				89225
Increase over this month last year				3561
Outfits Mailed Out				17325
Media Manufactured, cc.				281300
Antitoxin Distributed, units				34911000
Toxin Antitoxin Distributed, cc.				8710
Typhoid Vaccine Distributed, cc.				1010
Silver Nitrate Ampules Distributed				6416
Examinations Made by Houghton Laboratory				2160
Examinations Made by Grand Rapids Laboratory				7604

THE JOURNAL

OF THE

Michigan State Medical Society

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MARCH, 1928

"I hold every man a debtor to his profession, from the which as men of course do seek to receive countenance and profit, so ought they of duty to endeavor themselves, by way of amends, to be a help and ornament thereunto."

—Francis Bacon.

EDITORIAL

SEVENTEEN YEARS OF SERVICE

Not many men in the active practice of medicine have been able to devote themselves untiringly to the service of the profession as a whole. And often such service when rendered is not accredited the mead of praise that it deserves. To get out the numbers of the Journal with almost clock-work regularity entails a self discipline on the part of an editor that is demanded of no other man. Dr. F. C. Warnshuis has been editor and business manager and secretary as well for seventeen years. For a number of years his activities have extended beyond the confines of Michigan inasmuch as he has occupied the position of Speaker of the House of Delegates of the A. M. A. Among his literary endeavors is his *Principles of Surgical Nursing* which appeared eight years ago and has since gone through five editions.

Besides his editorial connection with this Journal, he is associate editor of the A. M. A. Bulletin and also of the American Journal of Surgery. Dr. Warnshuis has set the standard high and it is the hope

of his successor that the standard may not be perceptibly lowered. The readers will be gratified to know that Dr. Warnshuis continues as secretary of the Society and business manager of the Journal. The dissociation of the editorial from the business management is calculated to make the duties less burdensome to both editor and business manager, who needless to say are both physicians in active practice.

IS THIS TRUE NOW?

"Medicine has advanced so far, that for the study of disease after the patient has died, we find institutions magnificently equipped, presided over by men of great experience and training; for persons suffering from the advanced stages of disease, we find great hospitals, with staffs of skilled physicians, surgeons and specialists. If we seek to find out 'What are the facilities offered for the detection and cure of disease in the stage when it has not damaged the tissues'? We discover that there is little consideration given to this aspect of the matter. It is indeed instructive to reflect, that, while men undergo a long and special training to enable them to recognize the appearance of the disease after the patient has died, and other men undergo equally careful training to enable them to recognize disease after it has damaged the tissues, few or no attempts are made to train men for the detection of disease when there is hope of a cure."—The Future of Medicine, Sir James McKenzie.

It is nearly a decade since these sentences were written. And now we are beginning to consider means of detecting disease while it may still be cured. The campaign for periodic health examinations points the way to early detection and recognition before any serious damage is done to the tissues.

MEDICAL POST-GRADUATE EDUCATION

An appropriation has been made by the Board of Regents of the University of Michigan for the establishment of post-graduate medical instruction. The Michigan State Medical Society has asked for extension work among the physicians of the state. A committee has been named by the Council of the Society to work out the details and to determine the nature of such extension work. The word extension is used advisedly for instruction for the present at least will be done largely extramurally. The one and two day clinic which has already found so much favor throughout the state will be continued. An effort will be made to get away as far as possible from the didactic lecture and to make the instruction practical.

A second feature, and this is somewhat an innovation, will be clinical and practical

instruction for periods of a week dealing with a single subject such as the management of the diabetic, or infant feeding, or the management of pernicious anemia. These courses will be limited to small groups who manifest sufficient interest in the particular subject to attend a short intensive course to be given at some of the larger clinical centers or at the medical department of the University. Details of this work will appear in a near future number of this Journal. Every effort will be made to insure that the work shall be timely and such that will meet the needs of those in active practice.

THE DIRECTORSHIP OF GRADUATE MEDICAL EDUCATION

The appointment of Dr. James D. Bruce to the position of director of graduate medical education is one that will be received with general favor by the medical profession of the State. Dr. Bruce's enthusiasm in regard to education especially in the matter of popularizing the advances of medicine is well known. For the past three years he has held the position of chief of the department of internal medicine at the University of Michigan. This experience combined with that of years of successful practice of both medicine and surgery go to make an ideal mental equipment for the position to which he has been assigned by the Board of Regents. Dr. Bruce combines the medical educator and the practical physician. He knows the medical profession from a quarter of a century's contact. His activity in the councils of the Michigan State Medical Society has been well and favorably recognized.

A big step forward has been made to meet the desire already expressed for the extension of facilities for medical education to every active practitioner in this State. What scientific medicine has to offer is being brought to our door.

The members of the Michigan State Medical Society and the Board of Regents as well as Dr. Bruce are to be congratulated on this appointment.

CAMPAIGN OF NATIONAL TUBERCULOSIS ASSOCIATION

The two diseases causing the greatest economic losses in the United States have been tuberculosis and hook-worm disease. Hook-worm is a disease cured by a simple treatment. Tuberculosis is primarily a disease of youth, and while the death rate has been recently reduced by 50 per

cent, still greater effort should be made to detect tuberculosis in its early stages. The nation wide campaign of the National Tuberculosis Association to be put on this spring, is an effort to get chest examinations made, so that tuberculosis hitherto unsuspected may be discovered. Thousands will present themselves for examination to their doctors within a few months. The responsibility of a careful, painstaking examination of those coming to their doctors is one which we must meet. Many incipient cases will come and this should stimulate us to give the best service we can to our people. Chest men tell us to be especially suspicious of a case with fever, or of those giving a history of loss of weight, or of strength, or of dyspepsia. In those cases examination should be repeated until a diagnosis of tuberculosis can be excluded.

H. E. Randall.

COMMON COLDS

Sir James McKenzie the famous heart specialist used to emphasize the importance of devoting the greatest attention to the initial stages of disease. He dwelt upon the importance of placing the most experienced physicians in the out-patient department rather than in the wards of the hospital. It was here the patient stood a greater chance of being helped by medical attention.

The importance of such advice is receiving recognition by the fact of an appropriation by The Chemical Foundation of \$195,000 to the Johns Hopkins University for investigation into the cause and for the possibility of finding a cure of colds. Of the systems of organs of the body, diseases of the respiratory organs come first and of the digestive tract second as a means of disablement. The reason is apparent. The other organs, cardiac, renal, glandular are affected only indirectly.

A calculation made by the Public Health service places colds at the head of a list of fifteen disabling conditions which cause absenteeism from business and industrial establishments.

Influenza is a close second. According to an estimate made by the insurance department of the United States Chamber of Commerce, the total annual loss to the people of the United States through illness is placed at two million dollars. A goodly portion of this is preventable sickness. Clinical research together with research in the realm of physiological chemistry have produced results more or less triumphant

in smallpox, tuberculosis, yellow fever, diphtheria, typhoid and diabetes. Why may we not expect important results from the Johns Hopkins staff of research workers during the five year period allotted to the investigation into the cause of colds which are very frequently the forerunners of grave complications too well known to us all?

The Manchester (England) Guardian does not feel over sanguine of the outcome of this piece of research, and the gift has inspired the Guardian's muse to express itself thus:

I knew a man, a learned man, a man of much renown,
Who vowed that he would yet surprise the natives of his town;
He tried to square the circle; and, I much regret to say,
Announced his purpose publicly. So him they put away.

I knew a man, another man of most inventive vein,
Who got perpetual motion rather badly on the brain;
With little weights and wheels and things he used to sit and play;
The neighbors got to hear of it. And him they put away.

I knew a man, another man of decent, steady stock.
Who tried for weeks to add a pound of tea to ten o'clock;
His calculations stretched for miles and made a fine array;
He sent them to the House of Lords. So him they put away.

One morning as these pretty men were sitting in a row
Upon the wall that hedged them in they noticed down below
Another man, a worried man, who muttered as he went;
They asked him why his brow was sad and why his back was bent.

He said, "I've offered forty thousand pounds of honest gold
To him who finds a cure for what they call a common cold."
Upon the wall they looked at him, and as one man replied,
"We're very pleased to meet you, sir. Hi! comrade, come inside!"

OUR CONTRIBUTORS

Dr. Leonard F. C. Wendt has devoted his attention to the study of diabetes over a number of years. He has established a clinic, where the problem is studied in its various phases, including diet and education of patients. Dr. A. P. Biddle, first editor of this Journal and president of the Michigan State Medical Society (1917-18), has taken a large interest in the civic life of Detroit, having served eight years as a member of the board of education. He is now a member of the library commission. Dr. George Draper is

professor in the department of medicine, Columbia University, New York. He has developed a unique clinic which he calls his constitution clinic. Dr. C. W. Rutherford is associate in ophthalmology, Indiana School of Medicine, also editor of The Transactions of the Indiana Academy of Ophthalmology and Otolaryngology. Dr. D. S. Brachman is medical director of the Dubois Health Center of the Tuberculosis Society of Detroit and Wayne County. Dr. Rita B. Tower is a medical missionary in India under the control of the W. F. M. S. of the M. E. Church. The paper on the Early Diagnosis of Pulmonary Tuberculosis by Dr. Gerald B. Webb of Colorado Springs, is apropos of the campaign being put on by the Michigan Tuberculosis Association.

EDITORIAL NOTES

Dr. G. W. C. Kaye, superintendent of the department of physics of the National Physical Laboratory of England and one of the foremost authorities on X-ray physics, has called attention to the importance of ventilation of X-ray laboratories, to insure the health of radiologists and technicians. The workers in X-ray laboratories have learned by bitter experience the importance of protection from the harmful effects of the X-rays and radium rays as well as the dangers of high tension currents. In too many hospitals still are the X-ray departments housed in basements difficult to ventilate satisfactorily. Kaye claims that the gases generated by X-ray apparatus are to blame for deleterious effects on X-ray workers.



Dr. J. D. Bruce

Director of the newly organized Department of Post-Graduate Medicine of the University of Michigan and chairman of the committee on Post-Graduate Medicine of the Michigan State Medical Society.

There have been a number of articles in lay magazines on the high cost of sickness, in which not only hospitals but the remuneration of the attendant physician or surgeon come in for a certain amount of adverse criticism. There is no question but that illness is unfortunate from every viewpoint, economic as well as from that of personal suffering. The question of the physician's or surgeon's fee, however, is one we would not attempt to decide. In proportion to the amount of academic training, cost of the same and the exacting demands made upon numbers of the profession, it can scarcely be said that they are overpaid. The medical profession is not a wealthy calling compared with some other occupations, and with many physicians the utmost retrenchment is necessary when it comes to meeting present day demands for the education of a growing family. Medicine is a charitable profession whose members in the vast majority of cases can be trusted to determine the economic relation between physician and patient. No one else is so well equipped to pass upon the justice of his fee as he himself.

Man has been described as an animal that looks before and after. Carlyle revised this statement by advising that man had better look around a little. It is safe to presume that as we grow older we tend to devise philosophies for ourselves. Perhaps no one had a richer existence than the late Sir William Osler and certainly no one left so many inspirational gems of thought. The little poem which appears on the cover of this number of this Journal prefaces an address of Osler's on "A Way of Life" in which the writer emphasizes the necessity of disregarding the past which cannot be in any way affected by the present or on the other hand living too much for the future, or as he expresses it "Cultivate the habit of living in Day-tight compartments."

"Dear Doctor: This is to congratulate you on your appointment as Editor of the Michigan State Medical Journal. You must be a 'bear' for work, but if you are I suppose you cannot help it and my best wishes go with you regarding your success in this new ambitious and honorable undertaking." Alden Williams, Grand Rapids. Thanks to you Doctor and to a score of others who have either written or approached me verbally in a similar vein. This gives me the opportunity to say that this Journal is a co-operative affair and its success will depend upon how much the members use it as their forum, and to the extent to which they contribute any interesting experience in the way of unusual cases or clinical or surgical methods which they have found useful or interesting. The Journal will soon grow stale if too much dependence is placed upon the editor.

MARCH, TWENTY-FIVE YEARS AGO

(From the Journal of the Michigan State Medical Society)

Editor, Dr. H. P. Biddle:

Dr. Emil Amberg, member on the Committee of National Legislation, A. M. A., contributed an editorial on Osteopathy and the Law. There is noted forty-eight chartered County Societies in Michigan, representing sixty-five counties. Dr. George C. Hafford, Albion, Calhoun County, has a paper on Considerations of Some Cardiac Problems. This was discussed by Doctors O. S. Phelps, Battle Creek; Angus McLean, Detroit; A. W.

Crane, Kalamazoo. Dr. Herman Ostrander, Kalamazoo, contributed an article on the Nature and Treatment of Epilepsy. Infant Feeding and Milk Modification is the title of a paper by Loran Curtis, Paw Paw. The Wayne County Medical Society has 326 paid members, giving seven delegates to the State Society. Dr. James E. Davis contributes an article on Some Observations in the Use of the Obstetric Forceps. Dr. H. R. Varney submits a preliminary report of the first fifty cases treated by the X-rays.

DEATHS

THE LATE DR. S. E. NEIHARDT

Dr. S. E. Neihardt of South Boardman, Mich., died at his home January 27. He had suffered for some time from chronic myocarditis complicated with arteriosclerosis, but had been actively engaged in his practice up to a few hours of his death. Dr. Neihardt was born at West Trinity, Ohio, on February 14, 1863. He received his early education at Orland, Indiana, where his father's family moved in 1864. After a course at the Orland High school, he entered the medical department of the University of Michigan in 1884 and completed his medical studies at Wooster university, Ohio, graduating in 1886. Dr. Neihardt began practice at LaGrange, Indiana, shortly afterwards locating at South Boardman, Michigan, where he spent the remainder of his life. He was thrice married, having five children from each of the second and third marriages. He is survived by his wife and ten children, as well as two brothers, George W., of Indiana, and Jonas J. Neihardt of Fife Lake, and two sisters, Mrs. Crosby, California, and Mrs. Lyon of Wisconsin. The doctor was a member of the Tri-County Medical Society, the Michigan State Medical Society and the American Medical Association. He was a member of the Masonic fraternity and a number of other organizations as well. For six years he was a member of the board of control of the State Hospital of Traverse City. He was also a pensioner examiner for almost thirty-five years. Dr. Neihardt was widely esteemed as physician and citizen and his passing is a distinct loss to the community.

FAMILY PHYSICIAN AS EDUCATOR

"If we are to guide people in the ways of health, if the community guards the health of its mothers, its babies, its school children, its industrial workers, the family doctor must become an educationist and in part a health administrator. If he does not, his role will suffer progressive diminution, curtailed as it will be on the one hand by the wholetime health official, and on the other hand by the invading specialist. This will, in my judgment, be a disadvantage to the community. The family doctor should remain the foundation of medical service, but his outlook, functions and training need modification to meet changing needs. First must come his care of the sick, but beyond that he will have communal and educational duties."—Dawson in The Lancet.

OUR OPEN FORUM

Affording Opportunity for Personal Expression

To the Editor: I am in receipt of your note of February 1st and I am somewhat curiously inclined to wonder if the result of the debate had anything to do with your decision. Seriously speaking, however, I understand that your Journal is limited for space and I assure you a new arrangement has been made which is entirely satisfactory to me. The bureau which I have the honor to represent will publish this matter and broadcast it widely.

Harry Rimmer.

Editor of The Journal:

Having read the Press reports of the so-called debate on Evolution held under the auspices of the entertainment committee of the Wayne County Medical Society in the Auditorium of the Detroit City College on the evening of January 31, 1928, one would be led to believe that the Wayne County Medical Society had gone on record as opposed to the theory of organic evolution as one of the working principles of Biology.

As one of the auditors at the fiasco above referred to and as a member of the Wayne County Medical Society I desire to enter a protest to the idea that the debate was in any way a purely scientific discussion of organic evolution as a Biological principle, and furthermore that the "vote" was not an expression of the sentiment of our Medical Society.

The make up of the audience plainly indicated that the house had been "packed" for the occasion and in the preliminary vote the sentiments of the "packers" was well expressed and certainly the majority of the persons who stood up were not members of the Society and it was this same element which supplied the applause for the platitudes indulged in by the representative of the negative side of the argument during the discussion and again cast the deciding vote at the end.

To me it seems exceedingly unfortunate that our Society should be represented as having taken the position as expressed in the Press, when the audience in no way represented either the Society or Scientific thinkers of any sort, much less Biological thinkers.

I trust therefore, you will see fit to publish this letter in the hope that we may in some degree correct, among the medical profession at least, the false impression that the press reports have given in reporting the "entertainment."

C. F. McClintic

These communications refer to a debate on the subject of Evolution, which took place in the Auditorium of the Detroit City College on the night of January 31. The subject of the debate was, "Resolved that The Theory of Evolution is established by the science of Biology. The affirmative was maintained by Dr. W. A. Dorland, Chicago; the negative, by Mr. Harry Rimmer of Los Angeles. We had hoped to print the two main addresses, the affirmative and the negative, had each been of the length of the average paper

contributed to this Journal, since we believe the interests of scientific truth are not jeopardized by free discussion. The affirmative was represented in a paper which consumed a whole hour in the reading and the address of the negative was of equal length. Owing to this fact their publication here was clearly out of question. As Mr. Rimmer has intimated, the debate will be published in full and will doubtless be accessible to those interested. Our conclusion not to publish the addresses was not in the least influenced by the way the debate went, even had the decision been other than what it was.

Apropos of the second letter, it has been for years a custom with the Wayne County Medical Society to hold an entertainment, instead of the regular scientific session, on the fifth Tuesday, when there happens to be five Tuesdays in the month. The entertainment usually takes the nature of a smoker or vaudeville performance. No business can be legally transacted, nor can anything be done officially at these meetings which are set apart purely as entertainment. The entertainment on Tuesday evening, January 31st, took on the nature of a debate on the subject mentioned and the meeting was thrown open to the public; it was very largely attended by a non-medical audience. It is almost needless to say that the decision of the debate therefore did not commit the Medical Society either way as intimated in a morning paper headline.—Editor.

CONCERNING BOOKS

A borrowed book is like a guest in the house; it must be treated with punctiliousness, with a certain considerate formality. You must see that it sustains no damage; it must not suffer while under your roof. You cannot leave it carelessly, you cannot mark it, you cannot turn down the pages, you cannot use it familiarly. And then, some day, although this is seldom done, you really ought to return it.

But your own books belong to you; you treat them with that affectionate intimacy that annihilates formality. Books are for use, not for show; you should own no books that you are afraid to mark up, or afraid to place on the table, wide open and face down. A good reason for marking favorite passages in books is that this practice enables you to remember more easily the significant sayings, to refer to them quickly, and then in later years it is like visiting a forest where you once blazed a trail.—William Lyon Phelps.

One of the greatest factors contributing to individual aid and social improvement is a "creative discontent," a discontent with things as they are, and with the impulse to make them what they ought to be, to the end that men and women may realize in the development of their personalities the most and the best of life. In the process of making new worlds for old through kindling the divine spark of such a creative discontent, current periodicals in our libraries are a most important factor.—The Library Journal.

NEWS AND ANNOUNCEMENTS

Thereby Forming Historical Records

The number of so-called "cold cures" is legion; of actual cures none. The nation's drug bill is five hundred million dollars, three-fifths of which is spent for patent medicines alone, mostly sold as cold remedies.

The Chemical Foundation has announced a gift of \$195,000 to Johns Hopkins University for a five year co-operative research into the cause of common colds aiming also at the discovery of a cure. This research fund is named in honor of Dr. John J. Abel, professor of pharmacology of the Johns Hopkins medical school.

An endowment of \$1,000,000 has been made by Albert D. Lasker and Mrs. Lasker for the establishment of a foundation, which will be known as the "Lasker Foundation for Medical Research," at the University of Chicago. The object of this Research Foundation is to study the causes, nature, prevention and cure of degenerative diseases. It is understood that the first efforts of the foundation will be concerned with cardio-renal diseases.

In recognition of his thirty-five years as an outstanding teacher in the medical school of the University of Michigan and his international reputation as a pathologist, Dr. Aldred S. Warthin has been the recipient of an honor from his colleagues and former students, in the form of a volume entitled "Contributions to Medical Science." This book of 715 pages includes contributions from sixty-four authors, representing his early colleagues and including one or more representatives from each of his thirty-five successive classes.—Science.

The following Michigan physicians attended a three-day otolaryngological clinic at Rochester, Minnesota the week beginning January 23rd: C. W. Ellis, Lansing; H. O. Westervelt, Benton Harbor; G. A. Winter, and W. A. McGarvey, Jackson; R. J. Coyle, Windsor; Ralph G. Ferris, Birmingham; Charles A. Baker, Bay City; B. T. Larson, Pontiac; Wilfred Haughey, Battle Creek; P. T. Grand, Grand Rapids; William Fowler, Ray Connor, Voss Harrell, E. V. Joinville, William A. Defnet, D. A. Cohoe, Lee E. Grant, F. L. Ryerson, R. S. Goux, W. J. Voorheis, William S. Summer and A. O. Brown, Detroit.

Dr. F. C. Warnshuis, secretary of the Michigan State Medical Society, and business manager of the Journal, and Miss Hellen Todt, daughter of Rev. and Mrs. J. H. Todt, of Manistee, Michigan, were married on Tuesday, February 7. The ceremony was performed by the bride's father in the presence of the immediate families, relatives and a few intimate friends. Following the wedding breakfast the bridal couple left for a trip to Florida and Cuba. They will return to Grand Rapids about March 1st. Dr. and Mrs. Warnshuis have the sincere congratulations of the doctor's many friends in the Society and best wishes for a long and happy wedded life.

According to Science Service the general death rate of the industrial population of the United States and Canada for 1927 will probably be the lowest ever reported, according to figures already available from the records of the Metropolitan Life Insurance Company. The chief factor in bringing about this decrease is the drop in the influenza death rate to about half that of 1926, with an accompanying decline in pneumonia mortality. Deaths from tuberculosis probably will reach a new low level in 1927, it is stated, attaining a point that would have been regarded as nothing less than visionary as short a time as ten years ago. Whereas the rate was 224.6 deaths for every 100,000 of the company's policyholders in 1911, the indications are that for 1927 it will not exceed 90 per 100,000.

As this Journal goes to print, comes the announcement of important promotions in the faculty of the Medical Department of the University of Michigan. Dr. F. A. Collier, from the position of associate professor of surgery, has been made professor of surgery, with Dr. Hugh Cabot as Dean of the Medical School and head of the department of surgery. Dr. E. C. Badgley was promoted from assistant to associate professor of surgery and Dr. J. M. Pierce was made assistant professor of obstetrics and gynecology. Along with the same announcement comes the news that the board accepted two gifts of the Fellowship Corporation of Battle Creek, one of which is for \$20,000 to be paid in instalments of \$1,500.00 quarterly, and to be used for study in problems of metabolism. The second is a grant of \$2,500.00 for investigation of bran as an article of diet. Work in connection with these grants is to be carried on by Professor L. H. Newburgh.

PROGRAM, NORTHERN TRI-STATE MEDICAL ASSOCIATION, APRIL 10, 1928

(Fifty-fifth Annual Meeting, Auditorium Detroit College of Medicine and Surgery, Antoine and Gratiot avenues, Detroit, Michigan.)

Morning Session—8:30 a. m.

1. Clinical — Pathologic Conference — Doctors Edward Spalding, Douglas Donald and Jas. E. Davis, Staff Receiving Hospital, Detroit, Michigan.

2. UROLOGIC SYMPOSIUM—

(a) Dr. Henry Oliver Mertz, Professor Urology, University of Indiana, Indianapolis, Indiana. Urologic Dystrophy.

(b) Summary of Pathology, Function and Vascular Changes in Experimental Nephritis—Doctors Frank Wilbur Hartman and Howard P. Doub, Henry Ford Hospital, Detroit, Michigan. This embodies the work done by Hartman and Doub which won the gold medal for experimental work at the 1927 meeting of the A. M. A.

(c) The Correlated Pathology of the Kidney—Dr. James E. Davis, Professor of Pathology, Detroit College of Medicine and Surgery, Detroit, Mich. Discussions—Dr. C. C. Sturgis, Professor of Medicine, Ann Arbor, Mich.; Dr. Geo. W. Kim-

ball, Laporte, Ind.; Dr. Plinn Morse, Pathologist to Harper Hospital, Detroit, Mich.

3. Recent Advances in the Treatment of Pernicious Anemia—Dr. C. C. Sturgis, Director of the Simpson Memorial Institute for the Study of Anemia, (University of Michigan), Ann Arbor. Discussants—Doctors Wm. H. Marshall, Flint, Mich.; Chester W. Waggnor, Toledo, Ohio.

12:45 P. M.

Luncheon, Receiving Hospital, courtesy Welfare Commission, City of Detroit.

1:45 P. M.

Biologic Film—Rockefeller Institute. How Vaccines and Sera are made.

Afternoon Session—2:00 P. M.

1. A Demonstration of the Physiological Effect of the High Frequency Current (Diathermy)—Dr. W. H. McCracken, Dean and Professor Pharmacology, Detroit College of Medicine and Surgery, Detroit, Mich. Question box—General discussion.

2. Diphtheria Toxoid as a Substitute for, and an Advance Upon, Diphtheria Toxin Anti-Toxin—Dr. J. G. FitzGerald of the Royal Connaught Laboratories, Toronto University, Toronto, Ont. Discussants—Dr. Guy L. Kiefer, Commissioner of Health for Michigan, Lansing, Mich.; Dr. W. W. Beauchamp, Lima, Ohio.

3. Infectious Eczematoid Dermatitis (Tina) Clinically Illustrated—Doctors Andrew P. Biddle, President of American Institute of Dermatology, and R. C. Jamieson, Director of Dermatologic Department, Receiving Hospital, Detroit, Mich. Discussants—Doctors Henry S. Bartholomew, President Dermatologic Society, Lansing,

Mich.; Howard J. Parkhurst, Ex-President Dermatologic Society, Toledo, Ohio.

4. Bronchiectasis, Pulmonary Abscess and Tuberculosis—John Alexander, M. D., Assistant Professor of Surgery, University of Michigan, Ann Arbor, Mich.

Empyema—Frederick A. Collier, Professor of Surgery, University of Michigan, Ann Arbor, Mich. Discussants—E. J. O'Brien, Detroit, Mich.; Wm. A. Hudson, Detroit, Mich.

Evening Session—6:30 P. M.

Dinner—Statler Hotel Ballroom. Tickets, \$2.50. 8:30 P. M.

Joint Meeting Northern Tri-State Medical Association and Wayne County Medical Society—Statler hotel ballroom.

Address—Dr. Elliott C. Cutler, Professor of Surgery, Western Reserve Medical School, Cleveland, Ohio. (Subject to be announced).

Adequate arrangements have been made for the entertainment of the ladies of the Society. The Tourist Bureau will furnish guides for shopping and tours. Invitations have been received from the Ford Airport for a visit to that fascinating place.

The Woman's City Club of Detroit—the largest woman's club in the world—has extended the privileges of this wonderful club to the ladies for the meeting. This club is situated just two short blocks from Hotel headquarters at the Hotel Statler, and is well worthy of a visit.

Officers—Doctors Wm. M. Donald, President, Detroit, Mich.; W. W. Beauchamp, Vice President, Lima, Ohio; Morris Gillette, Secretary, Toledo, Ohio; Robt. Hoffman, Treasurer, South Bend, Ind.

COUNTY SOCIETY ACTIVITY

Revealing Achievements and Recording Service

EDITOR: Frederick C. Warnshuis, M. D., F. A. C. S.

Under the plan adopted by the Council and imparted in the Secretary's annual report published in the February issue of The Journal your State Society is entering into a new sphere of organizational activity. The urge is felt to attain greater ends and achieve more far reaching results. We cannot well remain content by routinely pursuing the program that has reflected our scope of activity in a limited degree. We are conscious of the fact that much remains that may well be included in our Society's program whereby we may enhance membership value, contribute to our members' welfare and at the same time render public service. We are setting out upon such a broadened policy and plan.

We therefore urge that County Societies, officers and individual members remain informed by diligently reading this depart-

ment of The Journal. Through these pages we purpose keeping you informed as to all Society activities and to report the work done by our County Units.

We reiterate again the one basic principle of organized medicine: In all matters pertaining to organizational activities, medical practice, policies, legislation, public relations, member's interests, in fact everything related to the practice of medicine in any County, the County Medical Society is the one dominating and governing authority. In all state matters the State Medical Society is the official, recognized authority. In all national affairs the American Medical Association is the parent national authority and guiding body. The County, State and American Medical Societies and Association constitute our official governing bodies and as

such receive our first allegiance and support. There cannot be any other supreme governing or directing powers or spokesman, though justification, from a scientific standpoint, does exist for the organization of other special national and regional medical organizations. These latter societies should, however, cause their influences and policies to ever conform to the plans and policies of the American Medical Association and its component units. Such a precedent ever dominates our State Society and governs our official action.

By reason of that precedent the following letter was sent to every County Society by direction of the Council:

To the Secretaries of County Societies,

Dear Sir:

At a recent meeting of the Council, held in Detroit on January 11, discussion was directed towards the activities that were being evidenced in societies by representatives of the Gorgas Memorial Foundation. It has become quite evident that this Foundation, through its representatives, has been appealing to county organizations for assistance in the perpetuation of this Foundation. Further, that they have sought opportunities to present their plans to our several County Medical Societies and solicit subscriptions. In addition it has been noted that some of the proposals materially conflict with the plans, policies and scope of activity of our State Medical Society and its component units, the County Medical Societies.

In view of the above and after mature discussion, the State Secretary was directed to address the following statement to our County Societies and request them to be governed accordingly.

"That the Michigan State Medical Society holds for the State of Michigan the same position and the same attitude that was adopted by the Board of Trustees and the House of Delegates of the American Medical Association in regard to the Gorgas Memorial. This attitude is expressed in the official report of the Board of Trustees of the American Medical Association as follows:

The Board of Trustees of this Association has already gone on record as being directly opposed to the solicitation of funds for a vast scheme of public health education by a separately constituted organization, such as the Gorgas Memorial, which unnecessarily duplicates and usurps work already being done by the established bureaus and publications of the American Medical Association and by other organizations such as are included in the National Health Council. Such a movement would make more difficult the task of the American Medical Association to insure for the public publicity for scientific medicine that is well controlled and safe. The great dangers of uncontrolled publicity for medical affairs have been emphasized to this Board."

Our State Organization in its House of Delegates has gone on record in regard to a plan to be observed by our County Societies and members in the matter of Periodic Physical Examina-

tion. Representatives of the Gorgas Memorial are suggesting a plan whereby this examination shall be conducted at hospitals and clinic centers in place of at the office of individual's family physician. We believe this detrimental and not to the interest of our members, and therefore seek to discourage the publicity and institution of any movement that tends to herd people into hospitals and clinic centers for examinations that may be best conducted by the regular family physician.

For these reasons, therefore, it is recommended that the competent units of the Michigan State Medical Society refrain from according the opportunity to the Gorgas Memorial representatives of utilizing the County Society as an agent for the furtherance of their proposed activities.

Yours very truly,

Secretary.

At intervals, and from varied sources, the report reaches us that The Council, officers and certain committees are favorable to and even foster movements that lean toward so-called state medicine. Just what occasions such statements we have never been able to ascertain. However, that there may be no misunderstanding, we renew the pronouncement that such a conclusion is in error. Our Society, its executive groups and your Secretary are emphatically opposed to the institution of any and every practice that proposes to provide state controlled medical services for the people in other than the treatment and prevention of contagious diseases and the treatment of dependent poor or insane. Your officers have ever been alert to oppose vigorously and persistently the institution of state medicine. Your Secretary personally is very much opposed to the operation of so-called infant and school clinics, where children of parents able to secure medical advice and services are accorded free medical care for which they are able to pay. We believe in imparting public instruction but after having so instructed we feel that the securance of medical care is a personal responsibility. We repeat—we are unalterably opposed to state medicine.

EATON COUNTY

The officers elected for the coming year are the same as those for last year with the exception of the secretary and treasurer. Dr. Carleton Dean of Eaton Rapids was elected in the place of Dr. H. J. Prall for the office of secretary and treasurer.

Carleton Dean, Secretary.

MONROE COUNTY

Monroe County Medical Society met February 16, 1928, at the Park hotel, Monroe. Dinner was served at 6:30 p. m. No important business was transacted.

Dr. Paul S. Barker of University Hospital,

Ann Arbor, gave an excellent address on "The Heart in Thyrotoxicosis."

Florence Ames, Secretary.

TUSCOLA COUNTY

I am enclosing report for the month of January, 1928, together with check for \$110 for dues collected.

On January 19 the County Society held a meeting which was largely attended. Dr. A. E. Leitch and Dr. Clarence Toshach, of Saginaw, read very interesting papers. Dr. Leitch's subject was "Goiter", and Dr. Toshach's was "Post Natal Care of Mother".

W. A. Crooks, Secretary.

CLARE COUNTY

The January meeting of the Gratiot-Isabella-Clare County Medical Society was held in the Park House, St. Louis, January 26.

Sixteen had supper together at 6:30.

Dr. B. C. Hall read the report of the Committee on a Fee Bill, this brought out a prolonged discussion which later had to be postponed to a future meeting to give time to Dr. M. F. Bronstetter who talked from notes on the "Differential Diagnosis of Surgical Condition of the Abdomen." This was discussed by Dr. Wm. L. Harrigan, Dr. T. J. Carney, and Dr. B. C. Hall.

Dr. Homer H. Stryker of Alma was elected to membership.

E. M. Highfield, Secretary.

BRANCH COUNTY

The Branch County Medical Society met for its Annual Meeting February 3, 1928, at Coldwater.

The program was furnished by home talent consisting of a paper on "The Doctor in Legislation or Medical Legislation."

Dr. E. E. Hancock, our retiring secretary-treasurer, formerly of Union City now of Battle Creek, gave a fine report of the Race Betterment Conference at Battle Creek and of the Highland Park Clinics.

Following the report of the Secretary-Treasurer Dr. Thomas B. Marsden, resident physician of the State Public School at Coldwater was received in membership.

The Society then elected the following officers for the ensuing year. President, Dr. S. E. Far, Quincy; Vice-President, Dr. W. A. Griffith, Coldwater; Secretary-Treasurer, Dr. R. W. McLain, Quincy; Delegate to the State Meeting, Dr. W. A. Griffith, Coldwater; Alternate, Dr. R. L. Wade, Coldwater; Medico-Legal Committee, Dr. Schultz, Coldwater.

R. W. McLain, Secretary.

ALPENA COUNTY

The February meeting of the Alpena Medical Society was held Friday February 10 at the Temple Cafeteria. After a delightful dinner at six the program followed.

Dr. D. A. Cameron gave an illustrated lecture on Jenner and Smallpox. The early trials of this earnest investigator were graphically described.

Dr. E. L. Foley presented a clinical case of pernicious anaemia. The improvement under the administration of liver had been rapid.

Dr. S. T. Bell presented a clinical case of hypothyroidism. The diagnosis had been made some two years previous, and the improvement

under thyroid medication was marked. Attention was called to the necessity of consideration of this disease in suspected nephritis cases and in cases showing marked changes in the skin and hair.

Dr. Carl Weller of the University who was a guest of the society gave some interesting observations on the Interpretation of the Wassermann reaction. His remarks showed the necessity of checking the reactions with the clinical findings.

C. M. Williams, Secretary.

NEWAYGO COUNTY

The annual meeting of the Newaygo County Medical Society was called at the Kimbark Inn, at Fremont, Mich.

After luncheon the meeting was called to order by the President, Dr. Drummond. The minutes of the last regular meeting were read and approved.

Dr. B. F. Black of Holton was then unanimously voted to membership in the Society. A communication from Dr. LeFevre, district councillor, relative to time and place for holding the next P. G. Medical Conference, was read and a motion was made by Dr. Geerling, supported by Dr. N. DeHaas that the Secretary be instructed to notify Dr. LeFevre that the Society would be pleased to have the next P. G. Conference at Fremont, about the first week in June of 1928, and the motion was carried.

The Society then proceeded to the election of officers for the ensuing year with the following results:

President, Dr. H. R. Moore, Newaygo; Vice-President, Dr. J. C. Branch, White Cloud; Secretary-Treasurer, W. H. Barnum, Fremont; Committee on Medical Defense, Dr. N. DeHaas, Fremont; Delegate to Michigan State Medical Society, Dr. P. Drummond, Grant; Alternate, Dr. B. F. Black, Holton.

Members present, nine.

W. H. Barnum, Secretary.

LENAWEE COUNTY

The January meeting was held in Adrian at the Adrian Club on the evening of Thursday the 19th. Dr. Esli T. Morden of Adrian was host to the Society.

Dinner was served in the dining room of the club at 6:30 p. m. There were 35 members and guests present.

The scientific program was given by Doctors Isaacs and Friedgood of the Simpson Memorial Institute of Ann Arbor. Dr. Isaacs told of the founding of the Institute and its aims and purpose. Dr. Friedgood gave an excellent paper on the "Diagnosis and Treatment of Pernicious Anemia," with of course special emphasis on the exact methods in use at the Simpson Institute. He gave excellent word pictures of a number of cases recently treated and the results obtained. It would be a fine thing if every member of the State Society could hear these two men talk on the subject of "Pernicious Anemia."

The annual election of officers was held with the officers elected, as follows:

President, H. H. Hammel, Tecumseh; Vice President, H. H. Heffron, Adrian; Secretary-Treasurer, R. G. B. Marsh, Tecumseh.

The final part of the program was given by Dr. Hammel. He told the story of his hunting trip in western Alberta, Canada after big game.

He illustrated his story with two hundred feet of moving pictures. He was in the hunting country five weeks and brought back fine heads of mountain sheep, goat, caribou, moose and silver tip grizzly bear and also a black bear. His greatest thrill was obtained when he was taking moving pictures of a bull caribou. This picture is truly a masterpiece, and can only be appreciated when seen. It is a picture that might never again be duplicated.

Our host, Dr. Esli T. Morden, is to be congratulated for making possible this fine meeting. The Society is grateful to him.

The meeting in March will be held on the evening of the 15th. Dr. Angus McLean will be the speaker.

R. G. B. Marsh, Secretary.

BERRIEN COUNTY

The January meeting of the Berrien County Medical Society was held in two sections. The southern part of the County Society met at Niles on Monday, the 23rd, and the north end at Benton Harbor on Thursday, the 26th.

Both were business meetings for the purpose of outlining policies for the coming year and for discussion of fees and collection.

A committee, consisting of Dr. Sowers of Benton Harbor, Dr. Rutz of Niles, Dr. Snowden of Buchanan, were appointed to work out a universal fee schedule for industrial work, as well as private practice.

It was decided to publish a delinquent debtors' list, available to all members of the Society, the purpose of this being to stop the nuisance of "progressive doctoring", viz., the habit of calling one physician until a bill is run up, and then calling another and cursing the first as a rotten physician. Patients on this list will be notified that they will be refused further credit by physicians in the Society. Further medical services they may need must be for cash until their old accounts are cleared. It is thought this scheme will also promote a more friendly and co-operative action among the members of the Society and also save a lot of unnecessary calls that are not remunerative. Care will be taken that no deserving people are on this list, or those in strained circumstances.

It is felt by members of this Society that the physicians in general practice are unduly imposed on. All of us have our charity families and people whom we are glad to tide over, but the faked emergency calls and "unable to get their doctor (because they have not paid their bill) calls" have become so much of a nuisance that it was felt that some action should be taken to combat this. This is an experiment and if successful, we will be glad to pass the information on.

W. C. Ellet, Secretary.

TRI-COUNTY

Dr. Don Griswold, Deputy State Health Commissioner, appeared before the local Rotary Club at their Noon-Day Luncheon on January 31, 1928 and gave a very interesting talk on County Health Units. Was also guest of the Tri-County Medical Society at a 6:30 dinner at Mercy Hospital, where he gave a more detailed account of the program of the State Health Department in organizing County Health Units. Our Society voted unanimously for the plan. All the preliminary work with the various health organizations has

been done and the doctor is to appear before the Board of Supervisors at their April Session. Wexford County is very favorably situated for such a unit, as they have a Health Program in force now with a budget of \$8,500, so with the State and Federal aid could go on the County Unit Plan with no extra expense. The local Board of Supervisors were very favorably impressed with the plan as suggested to them at the October Session, so will no doubt adopt the plan when presented to them by the State Department.

Mercy Hospital held its 20th anniversary January 21 with a 11 o'clock Mass, following by a noon-day luncheon, with the local staff and board attending. Appropriate remarks were made by different members of the Staff and Board and Sister Lagora.

Dr. David Ralston, who is an Honorary Member of the State Society left for New York to spend the winter with his daughters.

Dr. S. E. Neihardt, of South Boardman, a member of our local and State Society died very suddenly January 27, 1928. I am enclosing a Memorium, by Dr. Hill of Fife Lake, also a historical sketch and obituary of his life.

Mercy Hospital are having some very elaborate additions made to their building, which will add very materially to its service in this part of the state. Our Society turned over the proceeds of a Liberty Bond for \$500 and its accumulations for their part in the improvements.

S. C. Moore, Secretary.

WAYNE COUNTY

PROGRAM FOR MARCH, 1928

March 6—General Meeting. Symposium on "Malignancy of the Gastro-intestinal Tract."

Clinical Aspects—

Dr. C. Emerson Vreeland.

Roentgenology—

Lawrence Reynolds, M. D.

Surgical Treatment—

Donald C. Balfour, M. D., Mayo Clinic

March 13—Medical Section. "Clinical Value of the Electrocardiograph."

John L. Chester, M. D.

Discussants—W. J. Wilson, M. D.

A. J. Jennings, M. D.

E. C. Spalding, M. D.

R. L. Novy, M. D.

Norman E. Clarke, M. D.

March 20—General Meeting.

(1) "Report of a Case of Tularemia."
E. C. VanSyckle, M. D., Detroit.

(2) "Management of Emergency Cases of Diphtheria."

J. E. Gordon, M. D., Director
Contagious Disease Division,
Herman Kiefer Hospital.

Discussion opened by B. Bernbaum,
M. D.

March 27—Surgical Section. "Symposium on Poliomyelitis."

(1) Etiology—Robert Funston, M. D.

(2) Pathology—Angus Goetz, M. D.

(3) Early Treatment—David J. Levy,
M. D.

(4) Later Treatment—A. D. LaFerte,
M. D.

Discussion opened by William E. Blodgett, M. D.

PROGRAM OF THE PRACTITIONER'S CLUB OF WAYNE
COUNTY MEDICAL SOCIETY

- March 2—"Physical Signs in Diagnosis of Incipient Pulmonary Tuberculosis."
D. S. Brachman, M. D.
- March 9—"Evaluation of Heart Murmurs."
John Chester, M. D.
- March 16—"Diagnosis of Anemias."
Plinn Morse, M. D.
- March 23—"Treatment of Anemias."
John Watkins, M. D.

OAKLAND COUNTY

A meeting of the Oakland County Medical Society was held at 6:30 p. m., Thursday evening, February 16th, at the Board of Commerce, Pontiac. Dinner a la carte was served.

Judge Glenn C. Gillespie addressed the meeting on "Hunting in Northern Michigan," illustrated with motion pictures.

Members were urged to bring their friends.

The following are the newly elected members.

Doctors E. A. Christie, Helen Cannon, Goldie B. Corneliuson, Dwight M. Ernest, Harold A. St. John, E. Kyle Simpson, Pontiac; Carl Dahlgren, Keego Harbor; R. S. Grimmett, Rochester; T. W. K. Hume, Auburn Heights; Harold F. Stahl, Oxford; Ernest W. Bauer, Hazel Park, Fred Townsend Reid, Clawson; Harold Roehm, Birmingham.

* * *

AN EXCERPT FROM THE PRINCIPLES OF
MEDICAL ETHICS—ADVERTISING

Sec. 4.—Solicitation of patients by circulars or advertisements, or by personal communication or interviews, not warranted by personal relation, is unprofessional. It is equally unprofessional to procure patients by indirection through solicitors or agents of any kind, or by indirect advertisement, or by furnishing or inspiring newspaper or magazine comments concerning cases in which the physician has been or is concerned. All other like self-laudations defy the traditions and lower the tone of any profession and so are intolerable. The most worthy and effective advertisement possible, even for a young physician, and especially with his brother physicians, is the establishment of a well-merited reputation for professional ability and fidelity. This cannot be forced, but must be the outcome of character and conduct. The publication or circulation of ordinary simple business cards, being a matter of personal taste or local custom, and sometimes of convenience, is not per se improper. As implied, it is unprofessional to disregard local customs or offend recognized ideals in publishing or circulating such cards.

It is unprofitable to promise radical cures; to boast of cures and secret methods of treatment or remedies; to exhibit certificates of skill or of success in the treatment of disease; or to employ any methods to gain the attention of the public for the purpose of obtaining patients.

* * *

HEALTH CERTIFICATES FOR CHAUFFER'S LICENSE

We are in receipt of the following information from Dr. Guy L. Keifer, State Commissioner. "Any applicant for a chauffeur's license whose laboratory finding is a positive Kahn test must, under the law, be refused a license. The license will necessarily be withheld until such time as the blood shows a negative reaction.

TO DELINQUENT MEMBERS

The treasurer reports that there are 92 members in good standing for the year 1928. This leaves a baker's dozen outside the fold. You cannot afford to be without membership in your County and State Societies. The State Journal is one of the outstanding publications of its kind in this country. The services of the Defense League are available when needed.

Send your check to Dr. I. C. Prevette, treasurer, and help to bring the membership to 100 per cent by March 1st.

C. A. Neafie, Secretary.

SAINT CLAIR COUNTY

Regular meeting of Saint Clair County Medical Society held at the Hotel Harrington, Port Huron, Mich., Thursday, February 2, 1928. Supper was served to ten members at 6:30 p. m. and the meeting was called to order by the President, Dr. Reginald Smith at 7:45 p. m. with the following members present: Doctors Smith, Lane, Thomas, Morris, B. S. Brush, Waters, Burley, Vroman, Windham, Kesl, McKenzie, Attridge, Clancy, Meredith, LaRue, Callery, Treadgold, Fraser, Cooper and Wellman. Dr. L. R. Gaddis, Health Officer of Port Huron was present as a visitor.

Minutes of the preceeding meeting were read and approved. Communications were read as follows: From Mrs. Belle Moore Waters of Nekoosa, Wis., thanking the Society for flowers sent to the funeral of Dr. Hugh Waters; from Dr. E. E. Lewis thanking the Society for electing him to honorary membership; also a letter from the State Society advising that the activities of the Gorgas Memorial Foundation in Michigan did not meet with approval and suggesting that the component county organizations refrain from cooperating with this organization for the furtherance of their activities; also a letter from Wayne County Society transmitting the text of a resolution relative to Act 306 Public Acts of 1927 the so-called County Health Department Act. From the resolution it is apparent that Wayne County Society do not approve of this Act; a letter with enclosures relative to the same subject from Dr. Guy L. Kiefer, State Health Commissioner in which he defends himself and the Act in question and asked the support of Saint Clair County Society and a letter from the Michigan Tuberculosis Association requesting a list of membership for use in mailing notices for the next State Clinic to be held in Port Huron.

A motion was made and seconded to reconsider motion authorizing the Secretary to write Dr. Franklin Martin and removing same from minutes of the Society, this was carried.

Dr. George Waters thanked the Society for flowers sent to the funeral of his brother, Dr. Hugh Waters and for the many expressions of sympathy he received at the time from his friends in the profession.

The Secretary read the complete correspondence and enclosures received from Dr. Guy L. Kiefer relative to Public Act 306 and a thorough discussion followed. A motion was made, supported and carried adopting a resolution similar to that adopted by Wayne County Society relative to this act. The resolution follows:

WHEREAS: Act 306 of the Public Acts of 1927 which provides for full time County Health Departments is indefinite in the limitation of its authority and of doubtful necessity at the present time, and, used in conjunction with existing state laws, could be

developed into an expensive and unjustifiable health program for the State of Michigan.

BE IT RESOLVED that the Health Program as outlined by said Act does not meet the approval of the Saint Clair County Medical Society.

Motion made, supported and carried to the effect that the Society act in accordance with the suggestions of the State Society relative to the program of the Gorgas Memorial Foundation and its activities.

Motion made, supported and carried to have the Secretary read the articles relative to medical subjects now appearing in the Detroit Saturday Night at the next meeting of the Society.

The Society then went into executive session.

Dr. W. D. Lane read a very interesting paper on "X-ray Findings in Duodenal Ulcer" with lantern slides. Discussion on Doctors McKenzie, Meredith, Callery, Attridge and Thomas. Meeting adjourned at 11:30 p. m.

George M. Kesl, Secretary.

Regular meeting of Saint Clair County Medical Society was held at Hotel Harrington, Port Huron, Michigan, Thursday, February 16, 1928.

Supper was served at 6 p. m. to fourteen members and three visitors. The meeting was called to order by President Reginald Smith at 7:45 p. m., with the following members present: Doctors Smith, Morris, H. O. Brush, Meredith, Waters, Lane, McColl, Thomas, Burley, Sites, Vroman, Callery, Waltz, Bowden, Kesl, Cooper, Clancy, B. E. Brush, Windham, McKenzie, Attridge, LaRue, Wellman and Derck. Visitors: Dr. E. W. Caster of Yale, Dr. P. E. Martin of Imlay City, Dr. J. C. Webster of Marlette, and Dr. Gertrude Manion of the Women's Benefit Association.

Minutes of the previous meeting were read and approved. Chairman Attridge of the Clinic Committee made a preliminary report which was placed on file.

Dr. E. C. Sites reviewed a series of over five hundred cases of disease of the gall bladder covering the symptomatology, diagnosis, surgical treatment, complications and post-operative history. Dr. Sites enumerated certain symptoms with the percentage of incidence of each as follows: eructation of flatus and epigastric distension 52 per cent, nausea 39 per cent, pain or distress in epigastrium 20 per cent, constipation 20 per cent, pain in upper right quadrant 23 per cent, same referred to right shoulder and back 22 per cent, icterus 20 per cent, vomiting 18 per cent and general abdominal pain 9 per cent. Regarding diagnosis, Dr. Sites said that with the X-ray 30 per cent gave positive evidence of gall bladder disease, 19 per cent gave suggestive signs and 42 per cent were negative. With the Graham-Cole technique all but 10 per cent gave either positive or suggestive findings.

Dr. E. W. Meredith followed with a paper covering the present day progress of diagnostic procedures in disease of the upper right quadrant of the abdomen. During the talk, Dr. Meredith told of a visit he paid to the Mayo Clinic and of experimental work done in the study of gall bladder function, by the use of dyes, in pregnant dogs. Concluding his part of the symposium, Dr. Meredith showed several sets of radiographs showing changes in size and shape of the gall bladder, and the presence of gall stones, before and after ingestion of a fat meal.

Dr. B. E. Brush discussed the etiology, symp-

tomatology and surgical treatment of disease of the gall bladder, in the concluding paper of the symposium. He stressed the fact that the etiology was in doubt and that the two principal theories were the infectious and the metabolic. He stated that he was inclined toward the metabolic theory because he thought something more than infection was needed to produce gallstones, and in support reviewed a series of one hundred cases in Starr Judds' Clinic which rather strongly supported this metabolic theory. The classical symptom complex of right upper quadrant pain referred to the shoulder and back, when present, often justified an operation, according to Dr. Brush. However, he thought that every possible aid should be obtained from the laboratory in cases where rather indefinite symptoms existed. Regarding treatment, the speaker seemed to favor removal of the gall bladder unless there was some definite reason to the contrary. "The Mayos," said Dr. Brush, "remove the gall bladder in 95 per cent of the cases." The counter-indications being jaundice, stones in common duct, or any condition which might indicate a stricture of the same.

The discussion was opened by Dr. Attridge, who leans toward the infectious theory as the cause of gallstones. Dr. C. F. Thomas stated that the mortality was twice as high in cholecystectomy as in drainage. Dr. E. W. Caster feels that, if possible, the gall bladder should not be removed.

Dr. W. D. Lane arose to state that the most objectionable feature of the present technique was toxicity of the dye used and that in his opinion the profession had a long way to go before reaching a safe procedure. Dr. A. J. McKenzie stated that in the Mayo Yearbook of 1926 there was a very comprehensive symposium on diseases of the gall bladder and covered the subject up to the present day. He said he did not believe typhoid a cause. Pregnancy predisposes in his opinion. The triad of findings most reliable in bile obtained by drainage of the gall bladder are turbidity, pus and cholesterol crystals; if these are present you are dealing with disease of the biliary tract. "Belching and bloating," said Dr. McKenzie, "are not reliable signs of gall bladder disease, because they occur in so many other conditions." In the silent type of gallstones this symptom does occur and is of some importance. Dr. McKenzie thinks that the Graham-Cole and Einhorn tests are reliable and that the Vandenberg test helps to differentiate pancreatitis from cancer at the head of the pancreas. Dr. McKenzie reported a case in his own practice where a stone was found lodged in the ampulla of Vater which he discovered after some search and removed through a duodenal incision. Calcium Chlorid intravenously will obviate hemorrhage in cases with jaundice and several quarts daily of glucose solution by mouth previous to operation will prevent acidosis. The gall bladder should not be removed in cases with icterus. Dr. Charles Mayo has recently advanced a theory that sugar consumption may be a factor in producing disease of the biliary tract through overwork of the liver, said Dr. McKenzie in concluding his remarks.

Dr. B. E. Brush closed the symposium by reporting two very interesting facts recently found in the literature, that a surgeon in India who had performed many hundreds of laparotomies had failed to find a single case of gallstones and that similar report was had from a hospital, with colored patients only, in Georgia. Dr. Brush be-

lieves that a too great consumption of sugar and lack of natural foods to be factors in gall bladder disease. Dr. E. W. Meredith, in closing, spoke of a new dye now in use at Mayo Clinic which did not cause nausea or vomiting. The preparation, however, was not available commercially, as yet. He also spoke of the medical treatment of gall bladder disease, by drainage once weekly and by use of Urotropin. Dr. E. C. Sites concluded the symposium by stating that in the series reported by him early in the evening

showed that 70 per cent of female cases gave history of pregnancy and that this would bear out the statement made by Dr. McKenzie in his discussion. Dr. Sites thought that surgeons should always explore the common duct and the head of the pancreas. This would frequently lead to discovery of other pathology during operations upon the gall bladder.

Meeting adjourned at 10:35 p. m.

George M. Kesl, Sec'y.-Treas.

BOOK REVIEWS AND MISCELLANY

Offering Suggestions and Recommendations

PERCIVAL'S MEDICAL ETHICS—Edited by Chauncey D. Leake, associate Professor of Pharmacology, University of Wisconsin. Price \$3.00. The Williams and Wilkins Company, Baltimore, U.S.A.

Thomas Percival was born in 1740 in Lancashire, England. The degree M. D. was conferred upon him at Leyden in 1765. During this year he was made Fellow of the Royal Society, along with John Morgan, who is considered the Founder of Medical Education in United States. Percival was a friend of Benjamin Franklin and was in close touch with such leaders in medicine as John Hunter. Of a number of works written by him he is known chiefly for his "Medical Ethics." The present contains an unabridged Percival with valuable notes and references; and introductory essay by the author dealing with development of medical ethics and the significance of Percival's work; the Hippocratic Oath; the codes of the American Medical Association beginning with that of 1847 and including that of 1912 revised to date. The little work is highly entertaining reading.

HORMONES AND STRUCTURAL DEVELOPMENT — Charles R. Stockard; Beaumont Foundation Lectures, Series Six. 74 pages, Williams and Wilkins—1927. Price \$1.50.

In a most interesting way the author of this little book has sketched a more or less generalized account of those factors upon which depends the normal or abnormal development of an individual. In the growth and development of an embryo from the egg to an adult, the distinct sequence of changes resulting in formation and differentiation of tissues and organs depends upon a growth dominance of one part over another. In illustration it might be mentioned that the pancreas does not develop till the anlagen of the liver is quite distinct or that the body axis is determined long before organ differentiation begins. That region which may be for a time dominant exerts a depressing influence, probably as hormones, upon the growth of other structures in the body. If by mechanical or chemical influence the dominant growth point of an embryo is made less active, the more dormant structures become proportionately active and, thereby, normal development is interfered with to the extent that structural abnormalities may be produced. By thus affecting changes in relative formative potencies in the parts of an embryo at different periods in development, abnormalities varying from changes in a single organ to double monsters and twins may occur. From such a discussion the reader is carried to a consideration of the postnatal development and determination of body type or

constitution. The thyroid, pituitary and other hormone producing glands are shown to have a distinct bearing upon the formation of a normal body type. Studies upon achondroplastic and ateliotic dwarfs and acromegalic humans and their canine counterparts, the bulldog, Pekinese and Great Dane, as well as upon distinctly normal types demonstrate that the regulatory effect of the internal secretions is inherited. The gonads, in addition to their effects in the embryo, in the young at puberty, and in senile individuals, provide for the reproduction of the animal and also form a basis for a functional rhythmicity in the adult. A discussion of the influences of the gonad secretions on the structure of the adult body in puberty, maturity and senility completes the substance of the book. This work is an exposition of a very modern concept of the relations of internal secretions to structural changes in the animal body. Although non-technical it derives authority from the author's extensive researches in this field.—W. T. D.

TO MY DOOR

If genius or the studious brain
By happy chance should kindly deign
To tap upon thy wooden side;
Open my door, fly open wide.

To gentle courtesy, to grace
To wit, kind heart and smiling face,
To the frank brow, the honest hand,
Open my door wide open stand.

To love, to friendship and to truth,
To interesting age or youth,
To worthy rich or worthy poor,
Stand ever open wide my door.

If formal folk should visit make,
Receive them for politeness sake,
But to the stupid or the bore,
Creak slowly on thy hinge my door.

—Anon.

FORMULA FOR OPTIMIST

They found a little courage
That simmered in the sun,
They blended it with patience
And just a spice of fun;
They poured in hope and laughter
And then with a sudden twist
They stirred it all together
And made an "Optimist."

—The Chaser.